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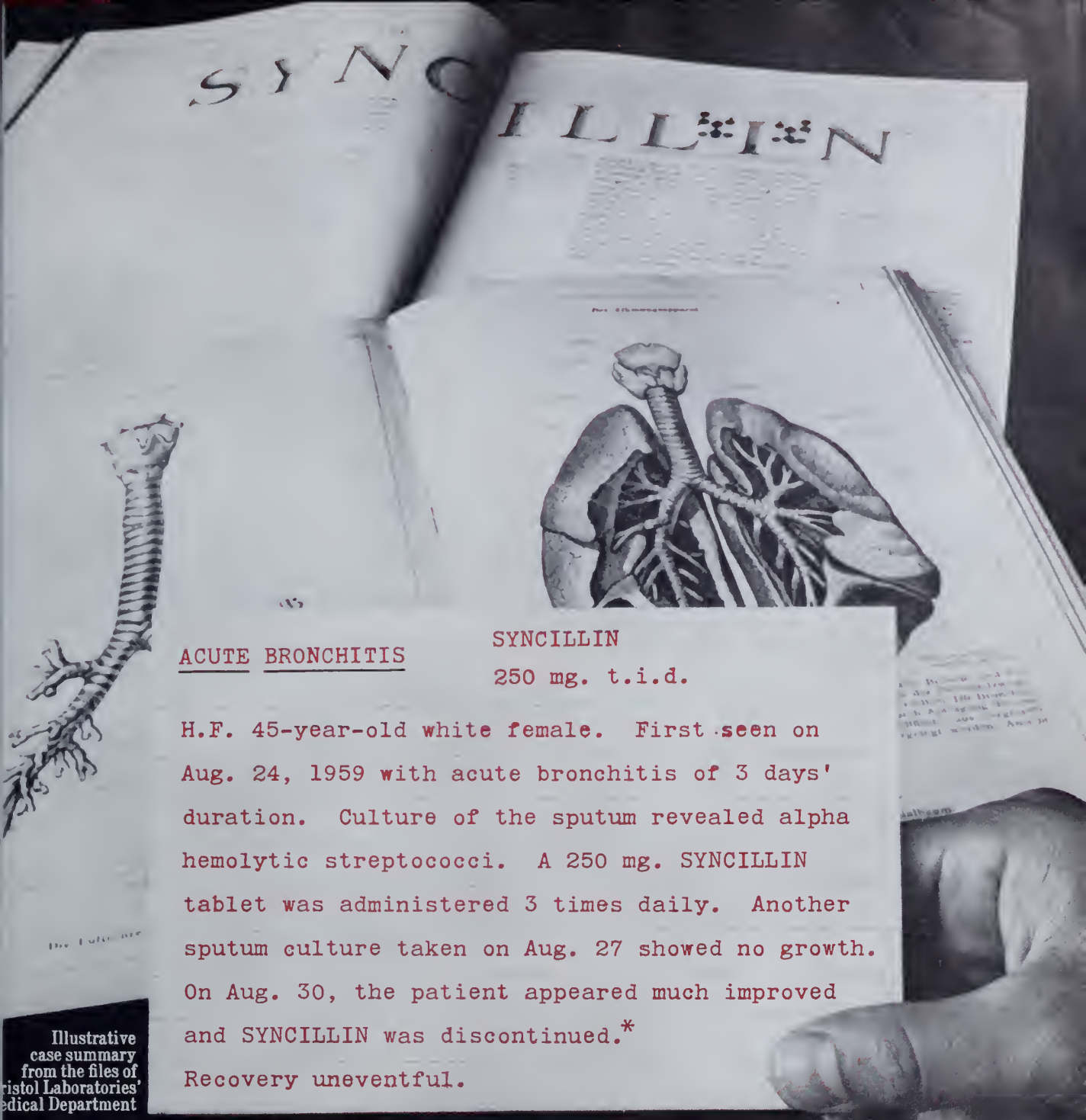
References: 1. David, N. A.; Porter, G. A., and Gray, R. H.: Monographs on Therapy 5:60 (Feb.) 1960. 2. Ford, R. V.: Current Therap. Res. 2:92 (Mar.) 1960.

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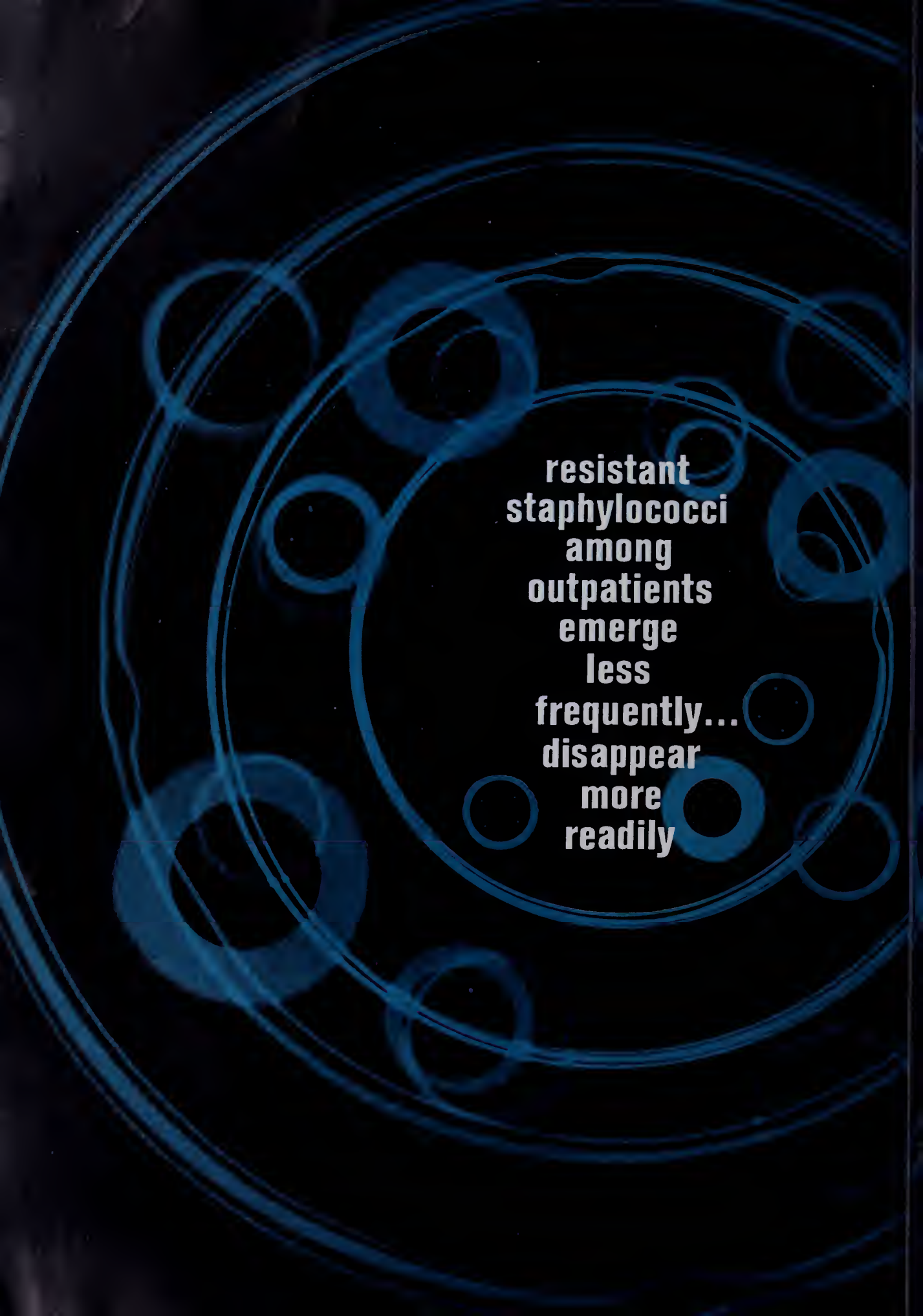
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References: (1) Bauer, A. W.; Perry, D. M., & Kirby, W. M. M.: *J.A.M.A.* 173:475, 1960. (2) Goslings, W. R. O., & Büchli, K.: *Arch. Int. Med.* 102:691, 1958. (3) Goodier, T. E. W., & Parry, W. R.: *Lancet* 1:356, 1959. (4) Fisher, M. W.: *Arch. Int. Med.* 105:413, 1960. (5) Petersdorf, R. G., *et al.*: *Arch. Int. Med.* 105:398, 1960. (6) Glas, W. W., in Symposium on Antibacterial Therapy, Michigan & Wayne County Acad. Gen. Pract., Detroit, September 12, 1959, p. 7. (7) Modarress, Y.; Ryan, R. J., & Francis, Sr. C. E.: *J. M. Soc. New Jersey* 57:168, 1960. (8) Rebhan, A. W., & Edwards, H. E.: *Canad. M. A. J.* 82:513, 1960.

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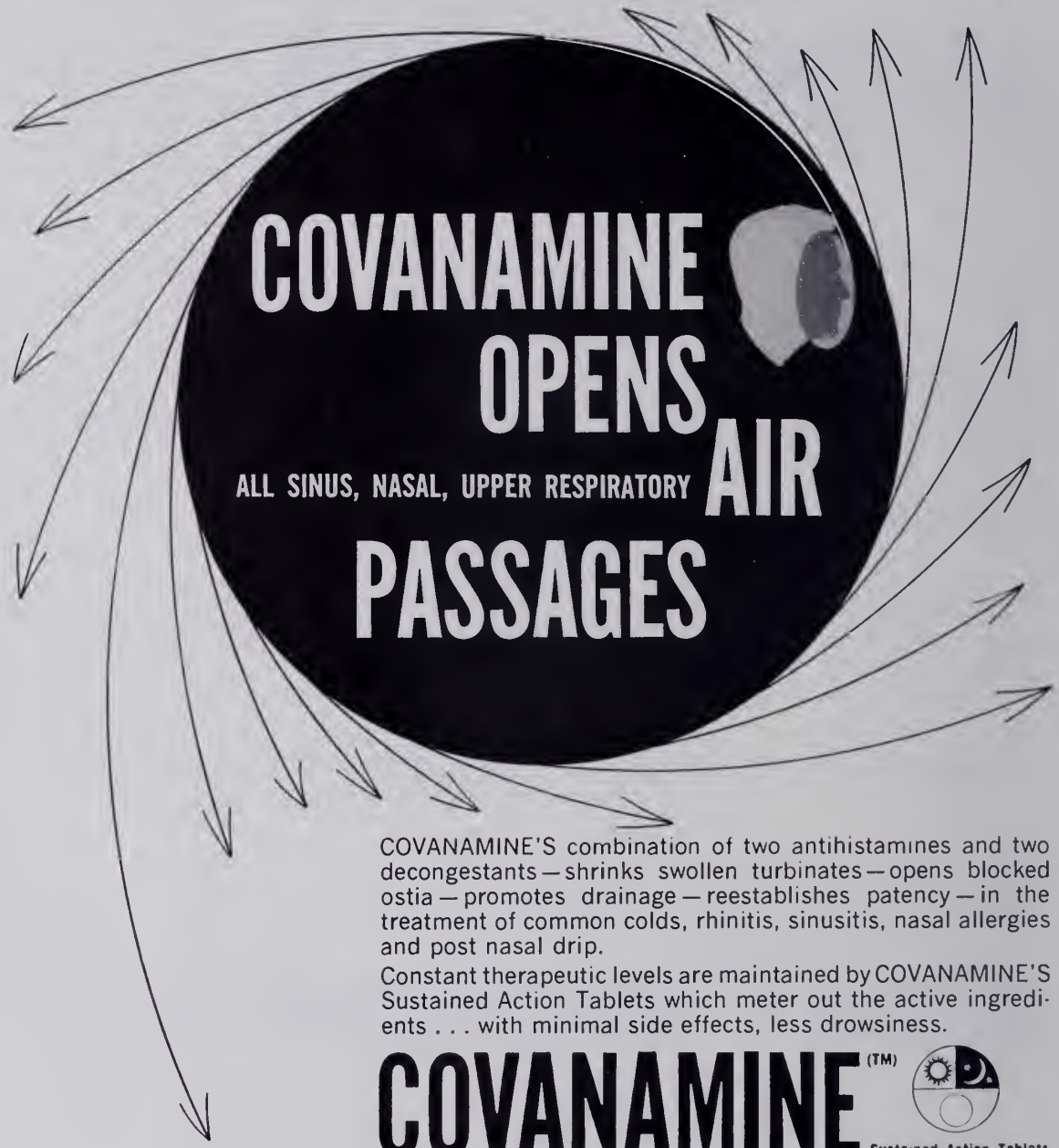
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References: 1. Pitts, R. F., Am. J. Med., 24:745, 1958. 2. Ford, R. V., Cur. Therap. Res., 2:51, 1960.

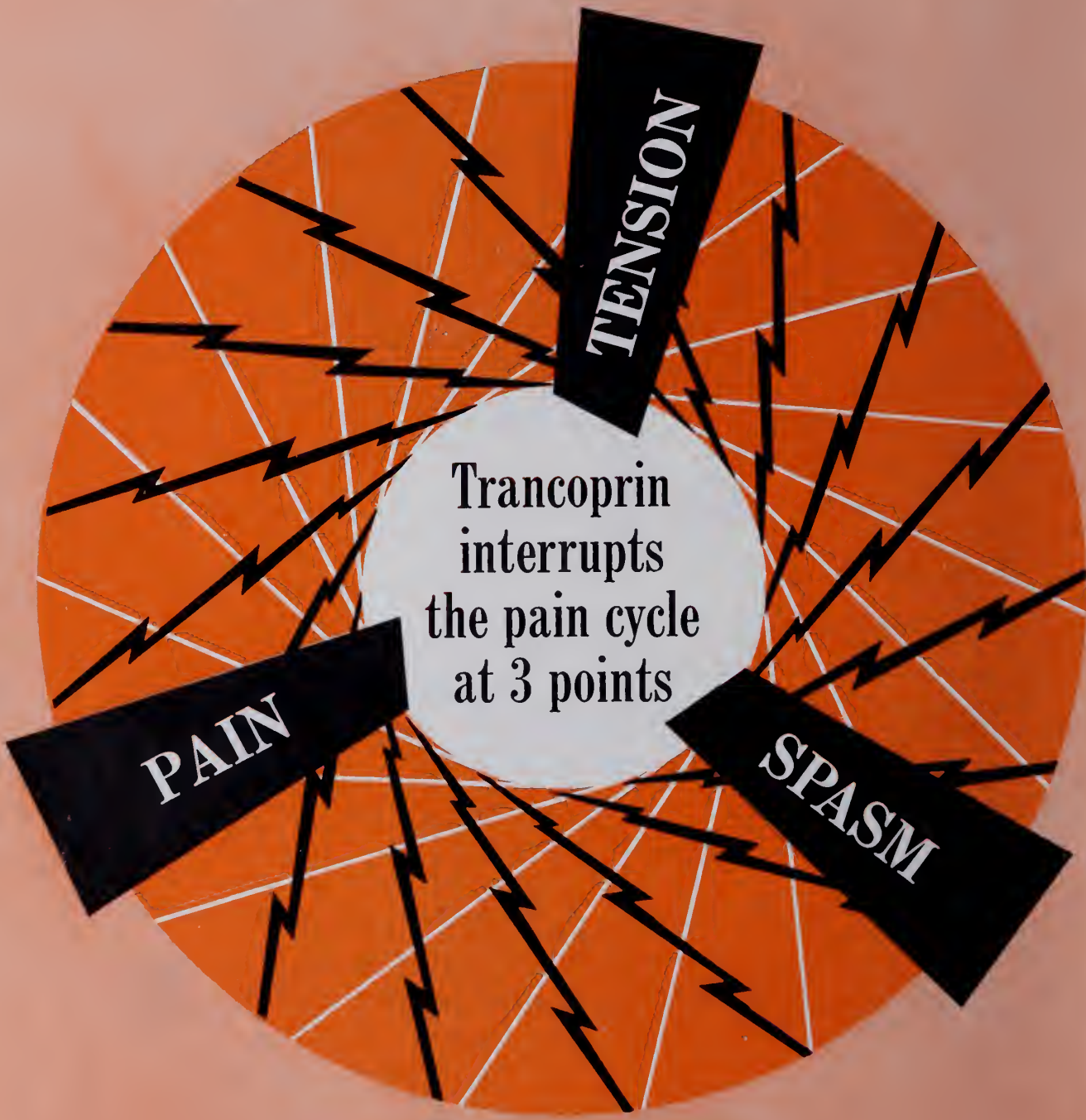
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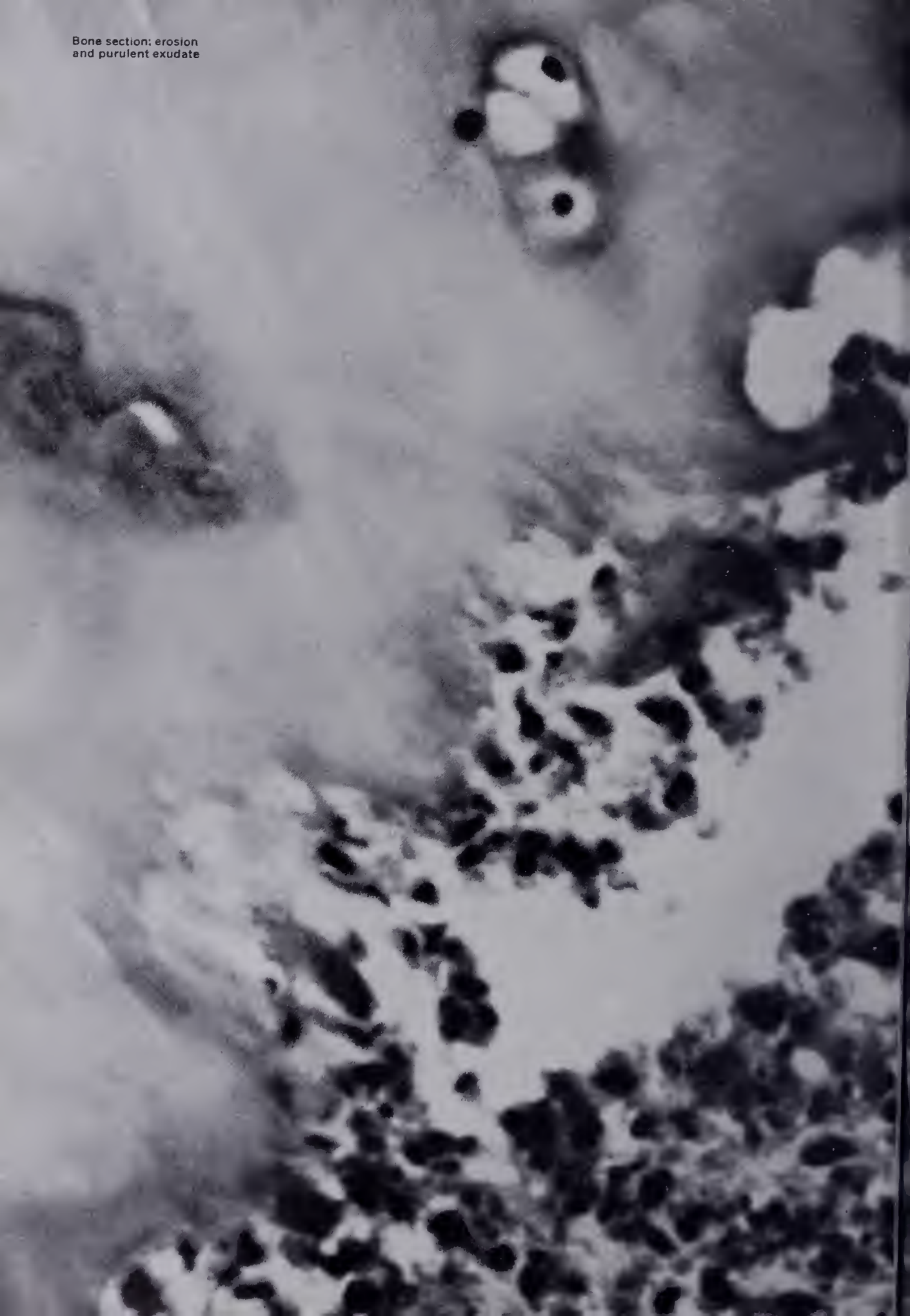
Each Trancoprin tablet contains 300 mg. (5 grains) of acetylsalicylic acid and 50 mg. of chlormezanone [Trancopal® brand]. Bottles of 100 and 1000.

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References: 1. DeNyse, D. L.: *M. Times* 87:1512, Nov., 1959. 2. Ganz, S. E.: *J. Indiana M. A.* 52:1134, July, 1959. 3 Gruenberg, Friedrich: *Current Therap. Res.* 2:1, Jan., 1960. 4. Kearney, R. D.: *Current Therap. Res.* 2:127, April, 1960. 5. Lichtman, A. L.: *Kentucky Acad. Gen. Pract. J.* 4:28, Oct., 1958. 6. Mullin, W. G., and Epifano, Leonard: *Am. Pract. & Digest Treat.* 10:1743, Oct., 1959. 7. Shanapby, J. F.: *Current Therap. Res.* 1:59, Oct., 1959. 8. Collective Study, Department of Medical Research, Winthrop Laboratories. 9. Hergesheimer, L. H.: An evaluation of a muscle relaxant (Trancopal) alone and with aspirin (Trancoprin) in an industrial medical practice, to be submitted.

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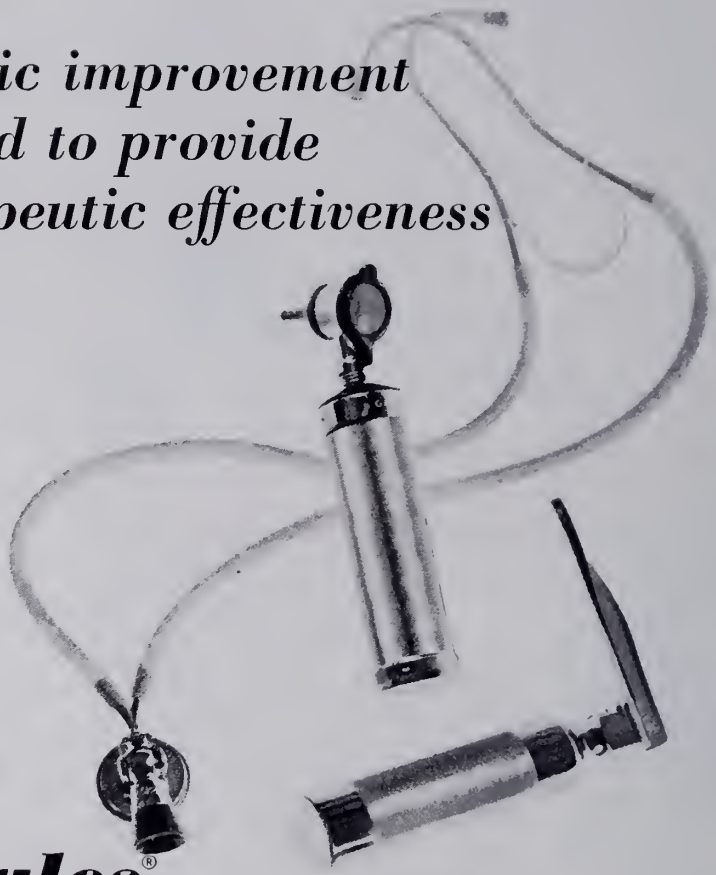
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1. Stephens, V. C., *et al.:* J. Am. Pharm. A. (Scient. Ed.), *48*:620, 1959.
2. Salitsky, S., *et al.:* Antibiotics Annual, p. 893, 1959-1960.
3. Reichelderfer, T. E., *et al.:* Antibiotics Annual, p. 899, 1959-1960.
4. Kuder, H. V.: Clin. Pharmacol. & Therap., in press.

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Acute Renal Insufficiency

• A thorough study on the subject which is of interest not only to the urologist but to all clinicians.

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LONNIE W. HOWERTON, M. D.†
Louisville, Kentucky

THE treatment of acute renal insufficency, in the past thirteen years, has made great strides. There have been established certain basic therapeutic fundamentals which demand emphasis in an effort to erase the confusion that understandably exists in the minds of many physicians. The importance of this subject is set forth by the following statement: "there is no phase or speciality of medicine in which this syndrome may not be encountered, wherefore a knowledge of this subject is necessary for every practicing physician."[2] It is the purpose of this presentation to set forth the logic supporting the present day therapeutic perspective of acute renal insufficiency.

Homeostasis protects man from destruction by his environment. This normally is accomplished by the functional capacities of the kidneys, lungs, gastrointestinal tract and endocrine system, but the kidneys are primarily responsible for the volumetric and chemical regulation of body fluids. Thus, the reason for the serious consequences of acute renal insufficiency are apparent and the treatment of renal failure must be directed toward minimizing and re-adjusting homeostatic abnormalities in hopeful anticipation of renal recovery.

Causes

Fundamentally, acute renal insufficiency is due either to a group of factors with associated renal circulatory ebb and the resultant anoxia or to the effects of exogenous toxins. Luecke[18] visualized the lesion in the distal tubule (lower nephron nephrosis). However, Oliver[22,23] demonstrated the ischemic lesion as disturbing "random areas of random tubules" and histologically characterized by "disruptive tubular damage." In the shock kidney the basement tubular membrane is always disturbed; whereas, in the nephrotoxic kidney (poisoning by mercuric chloride, potassium chlorate, etc.) the basement membrane is intact. The time necessary for

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Presented at meeting of the Louisiana State Urological Society and the Mississippi State Urological Society, Edgewater Gulf Hotel, Edgewater Park, Mississippi, August 20, 1960.

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reversibility is proportional to the degree of tubular damage.

Basically the cause of death in acute renal insufficiency is due to: (1) hyperpotassemia and/or (2) pulmonary edema. The cerebral and gastrointestinal symptoms associated with uremia are due probably to an accumulation of organic acids in the body. Azotemia per se is not associated with lethality, but reflects symptomatologically the associated accumulation of organic acids, phenols, guanadine, catecholeamines, conjugated cortico-steroids and creatinine. Therapeutically it is imperative, therefore, to avoid overhydration (prevent pulmonary edema) and hyperpotassemia (circumvent cardiac failure).

The source of water in the body is both exogenous and endogenous. Endogenous water, or water of oxidation, is a real lurking hazard in these patients. This water results from the catabolism of fat and protein stores in the absence of adequate caloric intake with a minimum average of 500 cc. per day. The presence of any catabolic process, depending upon its activity, may vastly increase the amount of endogenous water; i.e., fever, infection, endocrine dysfunction, trauma, etc. It is well to remember that endogenous water is free of sodium and when thrown into the circulation in large quantities it may dilute the plasma electrolyte values. This is clinically usually insignificant if its correction is resisted.

Daily Fluid Intake

The daily fluid intake requires careful studied consideration. Assuming the water of oxidation to be 500 cc. per day and the insensible fluid loss of the body (respiration, skin, bowel) to be 1000 cc. per day the 500 cc. deficit must not be exceeded in the daily fluid intake. If glucose is used its volume should be calculated on the basis of 7 to 8 cc. per kilogram body weight and in infants or children a replacement of 0.5 to 1.0 cc. per kilogram body weight per hour is a fundamental requirement.[27,1] Fever increases the insensible water loss and should be replaced by calculating the necessary volume since each degree of fever permits a 13 per cent water loss.[20] Furthermore, gastrointestinal losses must be replaced volumetrically. The amount of vomitus or volume by gastric suction should not be equally replaced by saline. Generally a 50 per cent replacement with normal saline and the remainder in distilled water with dextrose will avoid potential hypernatremia with its associated pulmonary edema.

Water replacement is most accurately accomplished by daily weighing of the patient. Satisfactory portable bed scales are available. The loss of one-half to one pound per day is consistent with proper water balance. Weight loss in excess of a kilogram per day suggests starvation and fluid deficit.[27]

The presumed *les bras croises* program of water restriction in the eyes of the patient and his family may result in apprehension and confusion since both feel that quantities of medication and "glucose" would certainly be more rewarding than the obvious daily "do nothing" program while they watch the patient's apparent decline and unimprovement. The necessity of obtaining the confidence of the family and patient in respect to the therapeutic regimen may be as trying, but an equally important therapeutic facet. Controlled accurate hydration is the very crux of the treatment of acute renal insufficiency and must be so regarded if the physician is to be rewarded with a live and active patient following this ordeal of seemingly endless oliguria and anuria. The ostensibly innocuous use of cracked ice must be permitted only after realizing that each teaspoon represents 10 to 15 cc. of water.

Caloric Considerations

Acute renal insufficiency is a self limited disease and thus a full caloric replacement is not necessary. To prevent endogenous and exogenous protein breakdown is the primary goal since the end-products cannot be excreted by the kidneys (i.e., potassium, nitrogenous residues, sulfates and phosphates). Under normal circumstances 100 grams of glucose per twenty-

four hours is sufficient. However, in the presence of fever or trauma this is not adequate to sufficiently inhibit protein catabolism and the ketosis of fat starvation.

To administer highly concentrated dextrose solutions, in order to minimize the fluid intake and prevent venous thrombosis from vein wall irritation of these solutions in smaller veins we use a polyvinyl catheter (14 to 16 F.) in the vena cava threaded through the superficial saphenous vein.[24,26] This catheter is inserted at the outset of the illness and affords a simple route for repeated collection of blood for chemical analysis without daily venopuncture and associated discomfort to the patient, the administration of packed red blood cells, salt free albumin, etc. We have left this catheter in place for a two week period without untoward effect throughout which time the patient was moderately heparinized. This procedure permits unhampered nursing care and a greater degree of activity for the patient.

It is our practice to administer 200 grams of glucose per twenty-four hours in 400 cc. of water as the basic requirement. This is modified as indicated by factors such as gastrointestinal loss, trauma, and fever.

Insulin

Insulin hastens the conversion of glucose to glycogen by the liver and affords a glycogen-potassium complex within the cell which prevents or materially reduces extracellular hyperpotassemia.[21] The insulin should be added to the glucose to provide a continuous effect. Regular insulin is used in the proportion of 1 unit per 3 grams of glucose. Frequent blood sugar examinations are essential to avoid confusion between the symptoms of mild hypoglycemia and uremia.

Steroids

Androgens have been shown to materially reduce protein catabolism.[13] There is some divergence of opinion in this regard in the literature, but we have considered it helpful provided that it is used in sufficiently large doses throughout the period of oliguria (25 to 50 mg. per day).[20]

Potassium

Hyperpotassemia is a silently fatal complication. Exogenous potassium must be carefully avoided. Orange juice and beef broth are particularly high in potassium. Beware, the solicitous grandmother who may unwittingly destroy the physician's gains with a daily portion of her all healing "beef stock." Foods to be avoided because of their high potassium content are: dried fruits, bran flakes, rye flour, graham crackers, nuts, cocoa, molasses, potatoes, beets, raw cabbage, raw carrots, beans, peas and popcorn.[3]

Transfusions must be used with caution since the serum potassium content of banked blood increases with the age of the blood.[13, 29] Transfusions in acute renal insufficiency are not indicated unless the erythrocyte count falls below 3,000,000 and the hematocrit below 15. Even severe anemia is well tolerated by the uremic patient and is apparently occasioned by the homeostatic mechanism since even with transfusions the hematocrit remains low.[20,28] This anemia may extend well into the diuretic phase of the disease and should not occasion alarm.[20,28]

Hyperpotassemia may be controlled within certain limits by the following methods: (1) insulin (previously discussed), (2) calcium, (3) sodium and (4) ammonium carboxylate cation exchange resin.

Calcium acts as an antagonist toward potassium without changing the plasma level. A 1 or 2 per cent solution of calcium gluconate may be included in the infusion when there is evidence of cardiotoxic effects of hyperpotassemia. The dangers of digitalis in the presence of hyperpotassemia and calcium will be discussed later.

Hyponatremia is a normal course in the oliguric state. This is of no clinical significance. Only in the instance of severe dehydration and sodium depletion is there any value in correcting this disturbance. The use of intravenous fluid therapy does

not appear to be a factor in producing hyponatremia, but is probably an adaptive homeostatic mechanism incident to uremia. Unless there is an actual salt depletion or water intoxication there is no response to hypertonic salt[6] and furthermore its use may initiate sudden pulmonary edema, overhydration, cardiac failure and death.

Ion exchange resins unquestionably have merit in the control of hyperpotassemia. However, they are not without danger. Fundamentally cation exchange resins are synthetic polymers with carboxylic side chain groups which substitute hydrogen or ammonium ions for other cations such as sodium, potassium and magnesium. Ammonium resins are used to eliminate potassium in both prophylactic and definitive therapy of potassium intoxication[9, 8, 14, 15] The possibility of acidosis due to the substitution of hydrogen or ammonium ions for potassium, sodium and calcium ions is ever present. The possibility of removing calcium ions with a resultant hypocalcemia must be considered. However, even in the face of these possibilities we find that the use of resins by mouth, gastric tube, or per rectum has been gratifying.* Resins must be used with controlled caution, with plasma electrolyte studies to demonstrate any changes particularly of potassium levels. We have seen instances of unexpected hypopotassemia.

Digitalis

Digitalis must be used cautiously in the face of hyperpotassemia. The presumed cardiac failure associated with acute renal insufficiency is of the high output type which does not respond favorably to digitalis.[4] Characteristically this cardiac disturbance demonstrates tachycardia, high venous pressure and a wide pulse pressure. In spite of this the patient should never be digitalized in the presence of hyperpotassemia unless it is absolutely necessary since as the potassium level rises the effect of digitalis is diminished.[5, 8] Furthermore, the combined use of digitalis and calcium may prove dangerous. The precise risk of digitalis in the presence of hyperpotassemia being that when the potassium level falls through diuresis, dialysis or resin effect the previously nontoxic amount of digitalis may become sufficiently toxic to incite ventricular fibrillation and death.[5]

Dialysis

The conservative treatment of acute renal insufficiency, that we have discussed, has been effective in approximately 80 per cent of our cases. Radical therapy or dialysis has been necessary for the remaining 20 per cent. Dialysis must be undertaken before the patient's condition has undergone profound deterioration. The precise indications for dialysis are difficult to outline and must be individualized for each patient.

The criteria that we have employed are: (1) a blood urea nitrogen in excess of 150 mg. per 100 cc. of blood unless the patient's general condition suggests earlier dialysis, (2) hyperpotassemia in excess of 6.5 mEq. or electrocardiographic evidence of cardiotoxic hyperpotassemia, (3) pulmonary edema, (4) congestive heart failure (early) and (5) edema due to overhydration.

It is important to realize that electrocardiographic evidence of hyperpotassemia depends not upon a single tracing, but a series of tracings to visualize the early progressive changes of hyperpotassemia; namely, (1) elevation and narrowing of the T waves, (2) diminished R wave, (3) prolongation of the PR and QRS intervals, (4) depressed ST segments, and (5) diminished or absent P wave.[20]

Hemodialysis is not without its hazards, but its delay may result in a fatality that otherwise might be avoided. It is beyond the scope of this presentation to discuss the merits and shortcomings of the various methods of dialysis, but suffice it to say that the patient with acute renal insufficiency should be transferred to a renal center sufficiently early to offer him every opportunity. All too often the patients are transferred after all else fails

* Smith, Klein and French, Special Resin 648.

and the complications have introduced an irreversible situation.

New methods of hemodialysis are constantly under study and there is good reason to believe that our successes will increase preceptibly.[11, 25]

Summary

Some of the basic therapeutic concepts of acute renal insufficiency are discussed. A method for the conservative phase of management is outlined. Granted that much has been left unsaid, but this is necessarily occasioned by the magnitude of the subject.

References

1. Albright, F., Burnett, C. H., Cope, O. and Parson, W.: Acute atrophy of the bone (osteoporosis) simulating hyperparathyroidism. J. Clin. Endocrinol., 1:711, 1941.

2. Atlas, D. H. and Gaberman, P.: Reversible Renal Insufficiency. Baltimore, The Williams and Wilkins Co., 1958, Introduction, viii.

3. Atlas, D. H. and Gaberman, P.: Reversible Renal Insufficiency. Baltimore, The Williams and Wilkins Co., 1958, p. 108.

4. Atlas, D. H. and Gaberman, P.: Reversible Renal Insufficiency. Baltimore, The Williams and Wilkins Co., 1958, p. 81.

5. Barnes, A. C. and Quilligan, E. J.: Measurements of aldosterone in the eclamptogenic toxemias of pregnancy. Am. J. Obst. & Gynec., 71:672, 1956.

6. Danowski, T. S.: Newer concepts of the role of sodium in disease. Am. J. Med., 10:468, 1951.

7: Elkinton, J. R.: Treatment of potassium retention in anuria with cation exchange resin. Am. J. Clin. Sci., 220:547, 1950.

8. Elkinton, J. R. and Danowski, T. S.: The body fluids, basic physiology and practical therapeutics. Baltimore, The Williams and Wilkins Co., 1955.

9. Evans, B. M., Milne, M. D., Jones, N. C., and Yellowlees, H.: Ion exchange resins in the treatment of anuria. Lancet, 2:791-795, 1953.

10. Freedman, P.: Renal colic and persistent hypercalciuria following self administration of vitamin D. Lancet, 1:668-669, 1957.

11. Hodges, Clarence V.: Personal communication.

12. Hopper, J., O'Connell, B. P., and Fluss, H. R.: Serum potassium patterns in anuria and oliguria. Ann. Int. Med., 38:935, 1953.

13. Howard, J. M.: Battle casualties in Korea: Studies of the Surgical Research Team, Army Medical Service Graduate School, Walter Reed Army Medical Center, Washington, D.C., Vol. IV: Major W. H. Meroney, Posttraumatic renal insufficiency.

14. Kessler, B. J., Leibler, J. B., Abrahams, J. I., and Sass, M.: Reduction of hyperkalemia by circulating blood through a cation exchange resin. Proc. Soc. Exper. Biol. & Med., 81:508, 1953.

15. Knowles, H. C., and Kaplan, S. A.: Treatment of hyperkalemia in acute renal failure using exchange resins. Arch. Int. Med., 92:189, 1953.

16. Levine, H. D.: Electrolyte imbalance and the electrocardiogram. Modern Concepts Cardiovascular Dis., 23:216, 1954.

17. Levine, H. D., Vasifder, J. P., Lown, B., and Merrill, J. P.: Tent-shaped T waves of normal amplitude in potassium intoxication. Am. Heart J., 43:437, 1952.

18. Luecke, R.: Lower nephron nephrosis: the renal lesions of the crush syndrome, of burns, transfusion and other conditions affecting the lower segments of the nephrons. Mil. Surgeon, 99:371, 1946.

19. Meroney, W. H.: Uremia-like symptoms not due to uremia in battle casualties, J.A.M.A., 158:1513, 1955.

20. Merrill, J. P.: The Treatment of Renal Failure, Therapeutic Principles in the Management of Acute and Chronic Uremia. New York, Grune and Stratton, 1955.

21. Moore, F. D., Edleman, I. S., Olney, J. M., Janes, A. H., Brooks, L., and Wilson, G. M.: Body sodium and potassium. Metabolism, 3:334, 1954.

22. Oliver, J., McDowell, M., and Tracy, A.: The pathogenesis of acute renal failure associated with traumatic and toxic injury. Renal ischemia, nephrotoxic damage and the ischemuric episode. J. Clin. Invest. 30:1307, 1951.

23. Oliver, J.: Correlations of structure and functions and mechanism of recovery in acute tubular necrosis. Am. J. Med., 15:535, 1953.

24. Russell, C. S., Dewhurst, C. J., and Brace, J. C.: Prolonged anuria: successful treatment by continuous infusion into the vena cava. Lancet 1:902, 1054.

25. Scribner, B. H.: Personal communication.

26. Shaw, G.: Acute renal insufficiency treated by caval infusion of dextrose solution of high concentration. Lancet, 1:15, 1959.

27. Strauss, M. B., and Raisz, L.: Clinical Management of Renal Failure. Springfield, Charles C. Thomas, 1956.

28. Swan, R. C., and Merrill, J. P.: The clinical course of acute renal failure. Medicine, 32:215, 1953.

29. Weisberg, H. F.: Water, Electrolyte and Acid-base Balance. Baltimore, The Williams & Wilkins Co., 1953.

Tussive Unconsciousness

• The author gives the report of a case, which he believes to be the fifth of this disease described in the literature, although a few others have been reported in whom the unconsciousness was not complete or there was a suspicion of epilepsy.

JOHAN T. PETERS, M. D.*
Sodus, N. Y.

SEVERAL diseases are described under the name "Tussive Syncope" which appear to be different entities. What speaks strongly for the conception of different entities, is the fact, that every form always returns with just the same pattern, never going over from one form to another. The three diseases which until now, are called by the same name, are:

1. **Tussive unconsciousness.** I could find only four cases of this disease in the French and English literature. In the American literature I found several descriptions of the other forms, mentioned under (2) and (3). These four cases, just as the fifth case, described here below, always showed a special pattern. This pattern returned in every attack.

2. **Tussive syncope.** McCann et al.[1] described this form: Never complete loss of consciousness; never symptoms of epilepsy. It appeared to be that the syncopal response to coughing, was caused by cerebral congestion, followed by cerebral anoxia.

3. **Tussive epilepsy.** Signs of epilepsy, mostly with abnormal cortical potentials in the EEG; no signs of cerebral congestion with cerebral anoxia.

Case Report

The case described here was a man of 53 years from Sodus, N. Y. His work was metal sorter (junk business). I had examined the patient several times since 1952. He died suddenly on June 1, 1958 from an unknown cause. Autopsy was not permitted by the family. He was a stout man with abdominal obesity. His weight had been 235 pounds, but was decreased to 214 pounds. He was a heavy cigarette smoker. Lungs and heart showed no abnormalities. Chest x-rays within normal limits. Blood pressure 112/70. Abdomen: liver palpable and enlarged. The prostate was much enlarged, about twice the normal size. However, no complaints with reference to the prostate were given. Blood: No abnormalities, except an anemia during the period of a duodenal ulcer, confirmed by x-ray. At that time his hemoglobin was 12.4, determined by the cyanidmethemoglobin method. The duodenal ulcer was cured by a strict diet in 1954.

Since 1941 the patient had had attacks of tussive unconsciousness. The attacks generally came twice a week, but somtimes he was free from them for a whole week and at other times the attacks came three times a week. "Ordinary" coughing after "colds" never ended with attacks, even if the coughing was severe. He could recognize the innocent coughing immediately. The more dangerous cough began always with a queer tickling in his throat, which was followed, after a few seconds, by a light cough—never a violent cough. A few seconds later the unconsciousness began, which lasted a few minutes. He felt the queer tickling on the right side of the throat but the mucosa looked normal in that spot. The tickling in the throat was the warning signal. If he was driving his auto, he had to go immediately to the side of the road. Once he had a bad collision, for which he said that not he, but the other fellow was to blame. The unconsciousness was complete. He could not remember an attack. He knew of it only if his wife saw it and told him later, or if, after auto-driving, he awakened standing on the side of a road. His wife noticed that during the unconsciousness his face was pale. The face was never cyanotic and he never showed shortness of breath. After the unconsciousness he could immediately continue his work, until two years ago. During the last two years he had to take a little rest before he could continue his work. Sometimes he told me, he could "fight off" the unconsciousness, standing on the side of a road, but his wife never saw such "fighting off". Therefore it was probably a short unconsciousness, which he did not remember. The electrocardiogram showed no abnormalities.

The EEG also showed no abnormalities. (It was a regular low voltage record with alpha-

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rhythm of about 10 seconds.) No incontinence, no biting of tongue, no convulsions.

Differential Diagnosis

The differential diagnosis from the two other forms, mentioned above, can be made as follows:

From the tussive syncope: The patient did not have any sign of cerebral congestion and cerebral anoxia. To this form of tussive syncope belong the cases, described by McCann W.,[1] Wilkins and Friedland;[4]. Probably also the cases described in Norway by Schwartz, Derbes and Kerr,[6] because the victims were nearly always suffering from emphysema, asthma and bronchitis. It is interesting that they were also often heavy men, addicted to tobacco. However many details are missing, which we need for a correct differential diagnosis.

The differential diagnosis is easily made from tussive epilepsy, if one requires that at least some sign of epilepsy should be present before accepting this diagnosis. Cases are described by Witty[3] and Rook[6] which belong to this form. The patient described in this article showed no signs of epilepsy, no biting of tongue, no incontinence, no convulsions. He had no epilepsy in his family. The EEG was normal, although this alone is not sufficient to exclude epilepsy, because a normal EEG is found in about 20 per cent of epileptic cases.

The four other cases with the pattern of tussive unconsciousness, shown by the patient here described, were the following:

Charcot[2] was the first author, who observed and described in 1876, a case, very similar to the patient described in this article. It was a man of 54 years of age, not an epileptic, who for a year had attacks, beginning with a tickling in the larynx, then a light cough, followed by unconsciousness. He did not bite his tongue and did not lose urine. The attacks became more and more frequent, sometimes 15 a day, each time following tickling in the throat and a little coughing. The unconsciousness lasted a short time. Another case described by Charcot belongs to another form of the disease, namely to the tussive syncope.

Witty[5] described three cases, which belong to the form, observed in the patient, described in this article. One of these patients was a carpet-merchant, 47 years of age. Seven years ago, he had had an attack of laryngitis, which left him with an irritating cough. After some attacks of cough, he lost consciousness. No history of epilepsy. He was a stout plethoric man. No further observations were possible.

The other patient of Witty[3] was 42 years of age. He was manager of a bus company. During the two years previously he had four attacks of unconsciousness, following bouts of coughing. Before the beginning of the coughing he had a "queer" feeling in a straight line from his epigastrium up to the top of his head. It was not restricted to the region of the throat. The cough was not violent. He smoked twenty cigarettes a day. He was a thick plethoric man. His height was 67 inches and his weight 208 pounds. No incontinence, no tongue biting, no convulsions.

A third case described by Witty[3] was a man of 33 years of age. He was a miner. The attack began just as in the case described in this article and just as in the case described by Charcot, with a tickling in the throat, causing a dry cough, soon followed by an unconsciousness of one to two minutes' duration. Just as the patient described in this paper he could distinguish an ordinary cough after colds from the cough that was followed by unconsciousness. No personal or family history of epilepsy. He was a stocky obese man whose height was 68 inches and whose weight was 184 pounds. Carotid-sinus pressure or constriction of his neck with 90 mm. Hg. pressure for forty-five seconds did not cause the attacks.

Resumé

A man of 53 years of age often had attacks of unconsciousness which lasted about one or two minutes, which followed short, not violent, coughing spells. The attacks of coughing began immediately

after tickling in the throat. No personal or family signs of epilepsy. The pattern of the attacks had not changed during fifteen years. He was a stocky obese man and a heavy smoker of cigarettes. Obesity and heavy smoking seem often to give a predisposition, not only for the tussive unconsciousness, but also for the other forms, here mentioned, although not present in all described cases and therefore not to be considered as the cause of the attacks.

References

1. McCann, Wm. S. et al.: Tussive Syncope, Arch. Int. Med. 84:845, 1949.

2. Charcot, J.: Laryngeal Vertigo, Gaz. Med. de Paris, 5:588, 1876.

3. Witty, C.: On the so-called Laryngeal Epilepsy, Brain. 66:43, 1943.

4. Wilkins, R., and Friedland, C.: Laryngeal Epilepsy, J. Clin. Invest. 23:939, 1944.

5. Rook, A.: Coughing and Unconsciousness, Brain. 69:138, 1946.

6. Schwartz, M.: With quotations of Derbes and Kerr Cough Syncope, Nordisk Med. (Oct. 2) 1958.

Electro-Galvanic Theory of Yellow Fever

Henry Stone, M. D.

* * *

Having depended much on the analogy claimed, the writer feels much encouraged in the belief that disturbed electricity will yet be proven to be the exciting cause of this fever; that there is a deficiency of air-electricity at high tension and probably negative; that the earth may be excited beyond the norm; that the irritation starts in the nervous system; that it will yet be acknowledged that the vast organic changes are the direct result of the nervous aberration. Every inference contained in the preceding pages has been drawn from a prodigious number of facts and statements made by the very highest authorities, who observed correctly and drew strictly legitimate deductions which cannot be set aside as uncertain, and must be respected until disproved by others founded upon equally numerous and equally well observed data.

New Orleans M. & S. J. 9:46 (July) 1881.

The Surgical Treatment of Pulmonary Complications of Pneumonia in Children*

• The treatment of pneumonia is primarily medical, but if the pleural space becomes contaminated, it becomes a surgical problem as well.

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CHEMOTHERAPEUTIIC agents have drastically reduced the mortality and morbidity which has been associated with pneumonia throughout the years. However, increasing reports in the literature call attention to the emergence of resistant strains of organisms with a resultant increase in both the incidence and complications of pneumonia, primarily staphylococcal, and particularly in children.[1-3] Even strains of organisms sensitive to numerous drugs, under certain circumstances, are capable of producing life threatening complications which can tax the knowledge and patience of even the most skillful and patient group. The purpose of this communication is to call attention to the fact that pneumonia still can be a serious disease and to elaborate on the surgical management of the complications.

Case Reports

Case No. 1—A two year old boy was readmitted to the hospital three weeks after removal of a ruptured appendix. During the three week period at home, he had been listless, pale, intermittently febrile, and generally uncomfortable. On readmission his temperature was 103°, WBC 17,000 with 93 per cent polys. His right hemithorax was flat to percussion and there were no breath sounds. X-ray showed complete opacity of the right hemithorax.

Thoracentesis yielded 180 cc. of purulent, watery fluid and micro-aerophilic streptococci and hemophilus influenza, sensitive to a wide variety of drugs, were grown on culture. Feeling that the nidus of infection was below the diaphragm, the right posterior subphrenic space was explored, but no abcess found.

Two days later the anterior subphrenic space and abdomen were explored and were likewise, found to be free of infection. Under the same anesthesia, the patient was placed in the semi-left oblique position and a decortication performed. The entire lung was completely atelectatic and trapped by a one inch thick, shaggy, dirty pleural rind. Several hundred cc. of rather thin, trapped exudate was removed. All lobes were freed and the lung re-expanded. Two large (28) tubes were placed in the pleural space and connected to under water suction. The post-operative film showed complete re-expansion of all lobes. Following removal of the tubes, a lateral empyema space remained and it was ultimately necessary to remove a portion of rib and convert this to open tube drainage. Subsequent films showed excellent clearing of the pleural space.

DISCUSSION: It must be assumed in this case, that the empyema developed secondary to an undiagnosed pneumonia, probably masked by the antibiotic coverage of the ruptured appendix. In the presence of a completely atelectatic, trapped lung, and total empyema, re-expansion of the lung and complete clearing of the pleural space, can only be accomplished by decortication with subsequent large tube, under water drainage. Chemical enzymes, such as Varidase, although useful in limited empyemas, should not be expected to free the lung and pleural space of a thick, well established rind.

Despite chemotherapy and repeated thoracentesis, this patient was extremely ill at the time of decortication. Immediately following surgery, he was dramatically improved with a marked subsidence in fever, improved respiration, and general well being. He subsequently made a complete recovery.

Case No. 2—A three year old girl with a temperature of 103.6 was admitted to the hospital two weeks following the measles. A large collec-

* Presented at the Eightieth Annual Meeting of the Louisiana State Medical Society, May 3, 1960, in Baton Rouge.

tion of pleural fluid was aspirated from the left pleural space and a pure culture of staphylococcus aureus, sensitive to all drugs tested, but penicillin and the sulfas, was isolated. Continuous under water tube drainage was instituted and the patient improved immediately. The empyema space became smaller, but did not completely disappear. Pneumatoceles, characteristic of staphylococcus pneumonia, developed in the lower lobe. The exudate was so thick and tenacious that the tubes had to be replaced several times. When drainage ceased, fever and toxicity returned immediately. Intermittant aspiration was tried and found to be worthless. At one time, a small bronchopleural fistula developed, but closed in forty-eight hours. The empyema finally became localized to a small lateral space and open tube drainage through an area of resected rib was carried out.

DISCUSSION: The basic principle of adequate drainage of localized infection is still as important as it was prior to the days of chemotherapy. The prompt return of fever and toxicity as soon as drainage became inadequate, despite full coverage with organism sensitive drugs, soon prompted us to discontinue all chemotherapy. It became readily apparent that once the empyema became localized and adequate drainage was instituted, the patient could handle her own infection without chemotherapeutic aid.

Case No. 3—A five year old girl was admitted to the hospital with acute abdominal distention, slight cyanosis, shortness of breath and fever of 105°. X-ray of the chest revealed right lower lobe pneumonia as well as extensive ileus. Nasogastric suction was instituted and chemotherapy started.

Three days later, she rather suddenly began to cough up voluminous amounts of purulent, foul smelling, dirty greyish material and x-ray of the chest revealed a pneumothorax. Pleural aspiration yielded a pure culture of staphylococcus sensitive to a very wide variety of drugs. Under water, closed tube drainage was instituted and a large bronchopleural fistula was apparent. Tremendous amounts of pus and air gave evidence of adequate drainage, but the temperature rose daily to 105° for seven weeks.

Antibiotic coverage included Chloromycetin, Cer-O-Cellin, Ilosone, Kantrex, Tao, Vancocin Vancomycin, and Albamycin. Supportive drugs included Gamma Globulin on two occasions, Nilevar, Redisol and four blood transfusions.

Pneumatoceles, parenchymal infiltration and consolidation, purulent pleural exudate, as well as the bronchopleural fistula, continued and progressed in complete disregard of all antibiotic coverage, plus adequate drainage. She was critically ill for eight weeks.

Intravenous fluids and repeated transfusions gave adequate support until she began to eat. It became aparent that antibiotics were of no help in controlling the infection. Therefore, they were all discontinued after the fourth week. Gradually, the temperature began to come down after the eighth week, she began to eat, and her strength began to improve. Her fistula remained open, but the pleural exudate decreased and finally ceased. The pleural catheter was converted to open drainage and she tolerated it quite well despite a very large fistula. A small segment of rib was removed, two large tubes were placed in the pleural space and the patient was discharged on the sixty-third day, with a persistent bronchopleuro-cutaneous fistula. She remained afebrile at home; her mother changed the dressing daily using sterilized Kotex pads and the fistula gradually closed. Pneumatoceles persisted, but have gradually decreased in size and at present, the lung and pleural space appear almost completely normal.

Medical Treatment

Drugs: The treatment of pneumonia is primarily medical and antibiotics to which the offending organism is sensitive should be given in large amounts. Two or three drugs are frequently used simultaneously. It should be realized, however, that the staphylococcal organisms are often entirely unpredictable. It is well known that they may respond to large doses of penicillin, although, they do not show disc sensitivity. Conversly, as shown by this case, they may be disc sensitive to many drugs, yet respond to none.

An atmosphere high in humidity and oxygen content, with or without Alevaire, seems to make bronchial secretions more easily handled by the patient. Postural drainage may be helpful. Adequate hydration of the patient with intravenous fluids, if necessary, likewise helps thin bronchial secretions as well as maintain fluid balance.

Repeated blood transfusions may be extremely helpful. Our third case received a total of four transfusions during her nine weeks' hospitalization with very marked benefit each time. Gamma Globulin in large doses may be indicated, particularly in children under one year of age. This was tried in our third case, but

did not seem to alter the course of the illness. Nilevar, 10 mg. daily, seemed to be helpful in Case No. 3.

Pneumatocles

When small bronchi become filled with thick, plastic exudate and cellular debris, they act as one way valves, allowing air to enter on inspiration, but not on expiration. Collateral pores are, likewise, closed by this process. Therefore, tension areas develop. The formation of pneumatoceles is characteristic of staphylococcal pneumonia. They may form in any stage of the infection and they may rupture to form pyopneumothorax. This condition is almost diagnostic of staphylococcal infection in children. They may become very large, compress the normal lung, and shift the mediastinum to cause serious interference with respiration.

In such instance, direct intubation of the offending cyst with under water suction is advocated and may be a life saving procedure, particularly in infants. They may become filled with purulent exudate and act as lung abscesses. Aspiration by needle or tube, when possible, is the procedure of choice for this condition.[4] These air spaces may be very slow to resolve and actually, as the surrounding pulmonary infiltration clears, they may become more apparent as the patient improves. It is sometimes difficult to differentiate between large pneumatoceles and pneumothorax. It is important to make this differentiation because closed tube drainage is indicated immediately in pyopneumothorax while pneumatoceles generally need no surgical attention.[5]

Generally, all of these pneumatoceles will disappear in time, but it may take as long as six months. Resection of the pulmonary tissue containing these areas is rarely necessary, unless they become grossly infected and act as a chronic lung abscess.

The pleural space tends to become involved early in a large percentage of staphylococcal pneumonias. The aspiration of purulent exudate permits culture and sensitivity studies, relieves the toxic effects of staphylococcic pus and allows re-expansion of the lung. When pyopneumothorax is present, continuous closed tube drainage is always advised. It may be life-saving. Continuous pleural drainage is not necessarily indicated in all cases of empyema, however. It must be emphasized that one should not compromise on the establishment of early and adequate drainage. If the lung becomes trapped in a thick rind, decortication will be necessary if re-expansion is to be accomplished. A tube as large as the interspace will permit will be very beneficial in insuring adequate drainage of the thick tenacious pus of staphylococcal empyemas. If the pus becomes loculated, the tube location may have to be changed many times, and if the tube becomes plugged, it should be replaced. Fever and toxicity will return immediately when drainage ceases. Utilizing continuous drainage, the empyema space may become obliterated completely, but occasionally the remaining space may have to be handled by a small rib resection and open drainage. In all three cases reported here, open tube drainage was necessary to handle the residual space.

Once empyema is established, generally speaking, a long illness is in store if the offending organism is a staphylococcus. Antibiotics certainly have altered the outcome of the pulmonary infection, but once the pleural space is involved, a protracted course is usually the case.

Summary

The treatment of pneumonia is primarily medical, but if the pleural space becomes contaminated, it becomes a surgical problem as well. Early and adequate drainage of the pleural space is necessary, whether by repeated needle aspiration or continuous tube drainage. Pyopneumothorax demands early, continuous tube drainage. Residual, localized empyema space may necessitate open drainage. Large pneumatoceles may compress good lung tissue, shift the mediastinum and embarrass respiration. In such instances, direct intubation of the air space is advocated. Once the pleural space is contam-

inated by the staphylococcus, a protracted illness is usually the case.

References

1. Proceedings of the National Conference on Hospital-Acquired Staphylococcal Disease: U. S. Department of Health, Education and Welfare, Public Health Service Bureau of State Services, Communicable Disease Center, Atlanta. 1958.

2. McLetchie, N. G. B.: Staphylococcal Pneumonia in Childhood, Can. Med. Ass. J., 60:352. 1949.

3. Fisher, A. M. et al.: Staphylococcal Pneumonia: A Review of 21 Cases in Adults, New England J. Med., 258:919. 1958.

4. Watkins, E., and Hering, A. C.: The Management of Staphylococcic Tension Pneumatoceles by Intracavitary Suction Tube Drainage, J. Thoracic Surg., 36:642. 1958.

5. Hertzler, J. H. et al.: Present Concepts in the Treatment of Empyema in Children, A.M.A. Arch. Surg., 68.838. 1954.

Good Whiskey and Bad—The Bourbon Whiskey of Kentucky

It has been in the last two or three decades only that Kentucky whiskey has been sought after to any great degree by the connoisseurs in the Northern or Eastern States, but the demand for it has steadily grown all over the Union, during the period named. In the South, it, with similar brands is nearly the only kind of whiskey sold. Within the borders of Kentucky the excellence of the native beverage has been known almost ever since the State began, and there is no jury like a home jury in matters of this sort. * * *

The whiskey which originally gave reputation to Kentucky manufacturers was generally made in small quantities by apparently very rude methods. Often the distillery was one of the sources of profit of the farm, and supplied perhaps the neighborhood only. The ruins of these still-houses are seen scattered over the State. There was no attempt at adulteration, as the price, even for the best when new, seldom exceeded twenty-five cents per gallon. * * *

With the war came the tax upon distilleries, and the government officers to watch the manufacture and to collect the revenue. Then, of course, all the neighborhood stills stopped, except such as were run by the light of the moon. Large capital was required to manufacture whiskey, and the distilleries shrank in number and increased in size. With a tax on them which exceeded ten times the amount the liquor originally cost, it was impossible to keep them off the market long enough for them to obtain the proper age. *Louisville Medical News*, Jan. 8.

New Orleans M. & S. J. 8:1171 (June) 1881

The Role of Chelating Agents in Dermatology

• The concept that certain chronic and morbid disease processes might be related in part to metal binding anomalies suggests a new therapeutic approach in medicine. Clinical medicine has available for its use a class of drugs whose full potential is yet to be explored.

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CHELATING agents are a family of chemicals able to bind heavy metals so tenaciously that they lose their toxic and/or physiological effects. The use of these agents offers a fascinating and relatively new approach to the treatment of certain dermatologic diseases.

"Chelate" is derived from the Greek word claw "Chele."

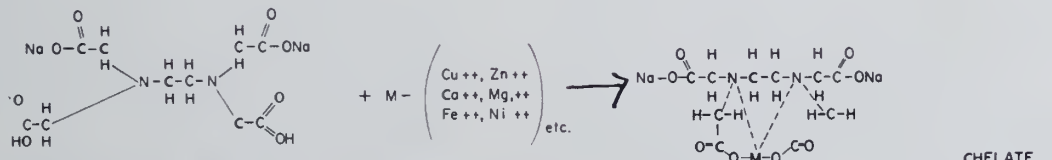
A chelating agent is an electron donating compound which forms an internal complex with a metallic ion, thereby deionizing and deactivating the metal. This property depends on the presence of adjacent chemical groups, which by virtue of possessing coördinate valence can simultaneously complex with a metal. A closed ring structure is thereby formed, and within this new structure the metal is firmly sequestered. A "Chelate", then, is a compound formed between a metallic ion and an organic molecule, having 2 neighboring groups capable of simultaneously combining with the metal to form the ring structure. The chelate resembles a claw with the metal ion clutched between the pincers of the organic molecule.[1]

The chelate structure has such high stability that the metal ion is no longer available for its usual reaction. Most of the biological, chemical, and physiological properties of the metal are changed. It is not our purpose here to discuss the many effects of chelate rings which tend to increase the stability of the metal chelate compounds. These effects are quite important, but they have been described in detail elsewhere.[2-5]

The chelating principle was first recognized by Werner in 1901.[6] It was first used biologically in a study of the effect of free calcium ion concentration on the contraction of the ventricle of frog heart. Morgan and Drew[7] coined the name "Chelation" in 1920 after the Greek word for claw (Chele). A chelate was first used on the skin by Popovici, Geschickter, Reinovsky, and Rubin[8] in a study of systemic absorption and its effect on blood calcium levels.

Although the principle of chelation had been used only sporadically in medical practice prior to the 1940's, it became of great importance early in World War II,

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Chelating Agent + Metallic ion → CHELATE
(Disodium EDTA)

[Chelating Agent + Metallic Ion → Chelate]

because of the danger of poisoning from the arsenic containing war gas, Lewisite. Peters,[9] in England, discovered that the mercapto groups of 2, 3-dimercapto 1-propanol chelated the arsenic efficiently and tenaciously yielding an inactive compound which could be readily eliminated. This agent was called *British Anti Lewisite* or *BAL.*

Shortly after the war, the problem of atomic fission products led to the study of agents capable of decontaminating individuals or objects exposed to them. Workers in Germany led by Pfeiffer and Schwartzenbach [10] had studied a series of compounds built upon a basic structure, consisting of 2 carbon atoms and 2 nitrogen atoms—known as *Ethylene Diamine.* One compound in this series showed outstanding ability to chelate heavy metals, ethylene diamine tetraacetic acid—EDTA —this is probably the most potent chelating agent known.

Properties of Trace Metals

1. Chelates of EDTA with heavy metals are very stable.

2. Chelated metals may be displaced by other metals provided the second metal is bound more strongly than the first.

Metals form chelation rings in a descending order of attractivity to a chelating agent as follows:

$$Pb > Cv > Ni > Co > Zn > Ca > Fe > Mn > Mg.^{11}$$

Thus, lead will displace copper in a chelation ring, copper will displace nickle etc. A weak chelate such as MgEDTA would be expected to release its magnesium in favor of attracting and removing calcium.

3. Foreman and Trujillo [12] have demonstrated that EDTA labeled with C^{14} carboxyl is transferred intact into the urine by both glomerular filtration and tubular excretion and that less than 1 per cent is metabolized. Thus, 50 per cent of an I.V. dose could be recovered in the urine in one hour and about 98 per cent in twenty-four hours. The drug does not penetrate the erythrocytes and mixes quickly with all the body water, though diffusion into the cerebrospinal fluid was relatively slow.

4. When EDTA is given intravenously, the calcium salt is the predominant formation. One gram of EDTA binds approximately 108 mgm. of calcium in vitro.[13] In vivo, it is only 45 to 72 per cent as efficient—the remaining 28 to 55 per cent may be partially bound to various other metals found in body fluids, probably in the order of descending stabilities.

The Physiologic Importance of Trace Metals

1. Inter-relationships are known to exist between trace metals which, when deranged, may result in definite clinical syndromes. This effect is seen when EDTA corrects cardiac arrhythmias by restoring the proper ratio of calcium to potassium.[13]

It has also been shown that magnesium has a reciprocal relationship to calcium. Thus, the injection of magnesium results in a drop in serum calcium to tetany levels.[14] Ingestion of magnesium salts increases urinary calcium excretion.[15]

2. Trace metals act as integral constituents of numerous metalloenzymes: e.g., zinc is found in carbonic anhydrase, uricase, catalase, peroxidase, carboxypeptidase, lactic dehydrogenase and alcohol dehydrogenase.[15, 16] In Peters' [17] work with porphyria, reference is made to the possible effects of an excess of zinc upon certain enzymatic and endocrine functions which could be ultimately involved in the basic pathology of porphyria. This will be discussed more completely elsewhere.

3. Trace metals act as catalysts to numerous enzymes involved in the intermediary metabolism of food stuffs, e.g., magnesium is necessary in the process of phosphorylation, manganese, aluminum, cobalt, and zinc in various stages of the Krebs tricarboxylic cycle.

With such protean functions in normal physiology, trace metals must be considered to have multiple potentialities as causative or contributing factors in diseased states. Thus, we have an important and vital paradox: Metals may be toxic

agents in many diseases; metals are also vital to numerous body functions.[18]

There are many naturally occurring chelating agents, these include amino acids, proteins, carbohydrates, heme, chlorophyll, and certain organic acids such as citric acid. So that when a chelating agent is administered to an individual it must compete with these naturally occurring chelating agents for metal ions. Most of the complex reactions upon which the vital processes of living organisms depend are influenced at some stage by natural chelates formed by the union of a metal ion and a protein or some other natural structure.

Chelation, or metal binding, has extended into almost every realm of medicine: the treatment of industrial intoxications with heavy metals,[19-26] cardiovascular problems; e.g., digitalis intoxication,[27, 28] cardiac arrhythmias,[28, 29] calcific valvular disease, angina pectoris,[30, 31] metabolic diseases, contamination states from radioactive metals,[32] in dissolving of corneal opacities,[33] in preventing the clotting of blood,[34, 35] to name only a few.

We will attempt to discuss the role of chelating agents in certain dermatologic disorders.

Schroeder,[36] in 1956, was one of the first to suggest a correlation between trace metals and chronic disease. In an intriguing approach, he emphasizes the possibility that some of the chronic afflictions of man may represent essentially an aberration in trace or abnormal metal actions: e.g., trace metal deficiency, abnormal metal excess, metallo-enzyme competition by an extraneous metal, etc. He raises the question that scleroderma might in some unexplained manner be related to a derangement of calcium metabolism. Recent investigations appear to substantiate the view that the metabolism of calcium represents a large integrated physiochemical system, embracing not only extracellular fluids and bone, but connective tissue as well. It is interesting to note that many of the drugs used in the treatment of scleroderma have metal binding interrelationships (e.g., PABA, citric acid, dihydrotachysterol, promin, ACTH, cortisone, penicillin, cinchoninic acid and prednisolone),[37] and that their therapeutic effects are achieved in part by their chelating properties.

Tui[38] et al. in their work on protein metabolism and scleroderma suggest that an insidiously developing protein depletion might lead to a substitution of collagen and calcium for its normal protein constituents.

Earl Osbourne,[39] while at Mayo clinic, did a study which showed that one of the early changes in scleroderma was a deposition of calcium in the corium.

Klein and Harris[40] (1955) were the first to report benefits from chelation therapy in scleroderma and described decided improvements in the skin and joints of one patient suffering from scleroderma, sclerodactylia, and calcinosis.

Rukavina, Mendelson, Price[41] et al. used EDTA in the treatment of three cases of noncalcific scleroderma (acrosclerosis).

Method of Treatment

Dosage: The patient received 3 grams of Na-EDTA (Endrate) in 500 cc. glucose in D W intravenously over a four hour period. The drip was used for five days, the patient rested for two days, and the cycle was repeated over a period of three consecutive weeks. A total of 45 gm. of Na_2 EDTA was received by each patient. Nicotinamide and pyridoxine were used along with EDTA. Foreman[44] has recommended 50 mgm. per kilo of body weight daily, with a daily maximum of 5 grams.

Results of Chelation Therapy

In Rukavina's series, significant changes were noted during the second week of therapy. The most striking changes occurred in the cutaneous and osseous systems: The skin became less tense and indurated, less shiny. There was an absence of joint pain on motion. Joint deformities, however, were little, if any, affected. One patient with ulcers on the fingertips and toes experienced a rapid regression and eventual disappearance of the ulcers. Bi-

opsy sections after therapy showed an increased prominence of the rete ridges, less dense fibrous tissue in the corium, and an increase in subcutaneous fatty tissue. One patient manifested improvement in the skin temperature of the fingers and toes, and the other two showed subjective improvement, although the findings could not be corroborated by oscillometric studies and histamine wheal injections. In all 3 cases, the serum calcium levels decreased: e.g., one patient's serum calcium dropped from 9 mgm. per cent to 5 mgm. per cent, but no clinical evidence of tetany was encountered. In all 3 cases, urinary copper and zinc excretions increased greatly (eg., twenty-four hour urine Zn increased from 0.5 mgm./ L to 10 mgm./ L). No major toxic effects were encountered. Since his original studies, similar improvement has been noted by Rukavina [42] in 4 additional patients with acrosclerosis treated with Na_2-EDTA.

In perhaps the largest series reported to date, Muller, Brunsting and Winkelman [43] of Mayo Clinic, used EDTA, in the treatment of 23 cases of scleroderma: 20 cases showed the predominant features of acrosclerosis, i.e., cutaneous sclerosis pronounced in the acral areas and spreading centrally, with vasospastic symptoms in the extremities. Two cases were diffuse scleroderma with central cutaneous sclerosis progressing peripherally without evidence of vasospastic symptoms, but with involvement of other organs. One case in the series was of widespread morphea.

Method of Treatment

Dosage was that recommended by Foreman,[44] i.e., 50 mgm/kilo of body weight daily for five days, followed by a two day rest period. The cycle was repeated for three consecutive weeks. Three patients received a second course following an interval of six to eight weeks. Some of the patients received 50 mgm. of pyridoxine and 200 mgm of nicotinamide daily.

Results of Chelation Therapy

During the course of therapy, the patients' subjective evaluations were noted periodically. *None* of the patients became worse during therapy. Almost *all* thought themselves improved. As in Rukavina's series, improvement was observed during the second week of treatment and reached its peak at the termination of therapy or shortly thereafter.*

By objective criteria, 9 of the patients experienced partial improvement. (25 to 75 per cent). Breaking his series down, Muller states that 7 to 15 patients with severe acrosclerosis, 1 of 5 patients with moderate involvement, 1 of 2 patients with diffuse scleroderma, all benefited from chelation therapy. It is interesting to note that the patient with morphea was not benefited. Objective evaluation of improvement depended mainly on the performance in certain functional tests such as crossing the legs, making a fist, opening the mouth, and esophogeal motility studies, together with over-all clinical evaluation.

Muller et al. feel that the use of edathamil in the systemic forms of scleroderma seems justified; but point out that the ultimate usefulness of this drug in the treatment of scleroderma awaits further evaluation. In a study requiring hospitalization and intravenous medication, the use of controls is very difficult. Whether EDTA will influence the course of the disease remains to be proved. At best it is an ameliorative, rather than a curative agent.

Discussion

It has been shown that EDTA influences the urinary excretion of certain trace metals. These trace metals form integral parts of many enzyme systems and it seems that EDTA could remove trace metals from enzyme systems or bind competitive inhibiting metals. When the tryptophan metabolism of patients with scleroderma [45] (acrosclerosis) or porphyria [46] was studied, it was found that these patients had a similar disorder of tryptophan metabolism in which the kynurenines and kynuerenic acid were excreted in relatively large amounts in the urine. In Rukavina's series,

* N. B. Clarke[64] believes that the in vivo action of EDTA persists for as long as a year after its administration.

all 3 patients with acrosclerosis were found to have abnormal tryptophan metabolism, characterized by an abnormally large urinary excretion of kynurenine, kynuerenic acid and its metabolites. During therapy with EDTA, two patients were found to have reverted to normal tryptophan metabolism, and a third experienced normal values after treatment with EDTA and pyridoxine. In view of the fact that kynureninase has been activated by magnesium ions, one might suspect that the abnormal tryptophan metabolism depends upon a functional deficiency of magnesium ions. The efficacy of pyridoxine plus EDTA could be explained on the basis of a decrease in tissue calcium and zinc, making it possible for the metal ions normally functioning with pyridoxal phosphate to be utilized more advantageously. The metal which is unblocked for normal function is magnesium. These observations suggest that the patients with acrosclerosis and porphyria might be deficient in the apoenzymes involved in the kynureninase and kynurenine transaminase reactions, that the active form of the enzyme might require some factor in addition to pyridoxal phosphate, or that an inhibitor of these enzyme systems might be present in the tissue.[47]

Sarcoidosis

EDTA has also been used in the treatment of sarcoidosis. In 1957, Rukavina[48] et al. published the results of an experimental study on 3 cases of sarcoid. The patient showed definite flattening of the cutaneous lesions. There was a moderate clearing of pulmonary densities in several patients. Histopathologic skin changes consisted of a decrease in epithelioid elements, giant cells, and lymphocytes. Of singular note, all 3 cases experienced an increase in zinc excretion. (e.g., from a normal of 0.01 mgm/L to from 3 to 6 mgm/L).

Porphyria

From the department of Neurology at Wisconsin, Peters,[49-53] et al have used chelating agents in the treatment of porphyria in 45 patients.

Methods of Treatment

BAL was used as a 10 per cent solution in 20 per cent benzyl benzoate in peanut oil. Doses ranged from 50 to 1,200 mgm/24 hours in divided doses. Therapy varied from four to sixty days consecutively. In several cases, 1 to 3 injections of 100 to 300 mgm/wk for as long as two years has been employed. With the exception of a questionably related transient erythema multiforme, no toxic effects of BAL or EDTA have been encountered.

Na_2 EDTA was also used in dosages comparable to that discussed earlier. The choice of chelating agent depended in part on a history of lead exposure, EDTA then being used preferentially.

Results of Chelation Therapy

A total of 45 patients were treated, including 31 acute hepatic porphyrics, 5 mixed hepatic porphyrics, 8 "paraporphyrics"* and 1 chronic porphyric patient.* Thirty-seven responded favorably to chelation therapy, 4 showed equivocal responses and 4 were classed as failures. Twenty-three of the 31 acute porphyrics, all 8 of the "paraporphyric" group, as well as the 5 mixed porphyrics and 1 chronic porphyric seemed to benefit from chelation therapy. Fifteen of the acute porphyrics and 2 of the mixed porphyrics were in very critical condition from advanced neuropsychiatric symptomatology prior to chelation therapy, despite prior ineffectual use of ACTH in 5 cases. All but 3 of this group seemed to have benefited by chelation therapy, with complete recovery from a tetraparesis noted in 6 patients. Of special interest was the frequently rapid improvement in schizophrenic and other psychiatric symptoms shortly after initiation of chelation treatment. The reader is referred to these re-

* The term "paraporphyric" is used by Peters[54] for those patients clinically resembling the known porphyric group, but in whom excretion of urinary uroporphyric and porphobilinogen was not demonstrated. The "paraporphyric" manifests an increased fecal protoporphyrin excretion, elevated delta-amino levulinic acid (a porphobilinogen precursor) in the urine, and, at times, increased urinary zinc or copper.

ports for more complete and fascinating descriptions of the responses.

Discussion

Increased delta-amino levulinic acid levels in the urine of acute porphyrics was first noted by Granick and Vanden Schrieck[55] and was also reported by Mauzerall and Granick.[56] The quantitative determination of delta-amino levulinic acid, a porphobilinogen precursor, is recommended by Peters et al. as a useful screening device. Elevation of urinary zinc levels from 2 to 36 times normal before chelation therapy seemed to parallel more closely in the acute porphyric during exacerbations than did abnormal porphyrin excretion. Thus, a direct correlation was found to exist between this excessive zinc excretion and the acuteness and severity of the disease, while excretion of abnormal porphyrin metabolites did not parallel symptomatology.

In porphyrin biosynthesis, *succinate + glycine* unite to form *delta-amino levulinic acid* which in turn condenses to form *porphobilinogen*. Porphobilinogen then provides pyrol units from which uroporphyrin, coproporphyrin, and protoporphyrin originate. An enzymatic block at any one of these levels of transformation could account for the withdrawal and excretion of important metabolites from the system. Uroporphyrin and coproporphyrin are excreted in acute porphyria in both urine and feces as zinc metal complexes, according to Watson and Schwartz.[57] Gunther,[58] in an earlier report, had recognized that urinary porphyrins in these patients were often combined with a metal. Peters [51, 53] suggests that zinc accumulation or of another heavy metal such as copper, might be responsible for such an enzymatic block and that chelation of these cations by BAL and/or EDTA corrects the metabolic error. The increased levels of zinc excretion in the urine before chelation are in support of this view. In one case cited, the twenty-four hour zinc excretion in the urine was 18.0 mgm/L (normal value of urinary zinc — 0.5 mgm.(L). During chelation the daily zinc excretion reached a peak level of 34.8 mgm/L. falling to a normal level after forty-two days of therapy. Zinc excretion then remained normal despite continued chelation. The increased exretion of zinc during chelation suggests rapid neutralization of heavy metal toxicity by binding and removal of the zinc from vulnerable enzyme systems.

Once again we encounter lack of controls, unpredictability of spontaneous remissions and the variation of severity so characteristic of this disease. However, the results are strongly suggestive in view of the high mortality reported in severe cases by others and the prompt improvement noted in Peters' severely ill patients treated by chelation.

The reader is referred to other reports in the literature which deal with the treatment of porphyria with chelating agents.

Nickle and Chromium Dermatitis

The chelation phenomenon has also been of value in the inhibition of metal-induced cutaneous allergic reactions.

Kurtin and Orentrich [59] state that a bound metallic ion cannot cause an allergic reaction. They used a chelating agent applied in ointment form (2 per cent $NiSO_4$ was chelated with 10 per cent EDTA) in 10 patients with a strongly positive nickle patch test. Patch tests of 5 per cent nickle sulfate were applied over uniform layers of the chelated ointment and also over its control base. They found that the ointment inhibited the appearance of a positive nickle patch test applied over the ointment site. This phenomenon is called "Chelation Blockade".

This phenomenon opens a new and practical approach to the management of the common metal sensitivities. The presence of trace metals in toiletries, therapeutic agents and household products may be the cause of the continuation of a dermatitis in sensitive patients. It is possible that the addition of a chelating agent may inhibit this.

In the tanning industry, chromium compounds (made up of concentrated reduced chromium salts) being corrosive in nature, in contact with broken skin can produce

a rapidly penetrating skin ulcer. Chromium can be found at the base of these lesions and this tenacious deposit prolongs the eroding action and inhibits healing.

Previously, in order to remove the chromium ion, it was necessary to use reducing agents (e.g., sodium bisulfite) to reduce chromate to chromic, the trivalent form and then manually curette the base of the ulcer.

Maloof [60] used an ointment containing 10 per cent EDTA Ca in a base of hydrous wool fat. Twenty-four hours after application of the ointment, the ulcer crater was cleaned out. In 54 cases of chrome skin ulcers, the treatment was 100 per cent effective. Only six cases (10 per cent) required an additional 2 to 3 applications to loosen and clean the crater. Forty-eight cases responded dramatically to only one application of the chelating ointment.

Toxic Effects of Intravenous Chelating Agents

1. *Local* — Thrombophlebitis proximal to the site of administration. It is recommended that these agents be administered in no greater than 0.5 per cent solutions in 5 per cent glucose in water or saline.

2. *Hypocalcemia* — Frank tetany is not common in patients who show normal or elevated initial serum calcium levels, even with rapid infusions. It has been shown that infusions at rates up to 15 mgm. per minute produce no marked changes in serum calcium levels, and no symptoms of hypocalcium. Occasionally, symptoms of numbness and tingling of the fingers and perioral areas occur near the end of infusions.

3. *Renal Damage* — renal tubular damage has been reported with pathologic changes resembling that seen with mercury or potassium dichromate intoxication. Oliguria and nitrogen retention has also been reported. Dudley et al.[61] report the death of two patients following treatment with disodium EDTA in dosages exceeding 5 gm. per day over a protracted period of time.

4. *Histamine* — like reactions, including lacrimation, nasal congestion, and bouts of sneezing.

5. *Glycosuria* — apparently related to renal changes from excessive doses and prolonged administration of these agents.

6. *Dermatitis* — lesions have varied from erythematous macular-papular lesions, to bullae and ulcerations on the oral mucous membranes and exfoliative forms of dermatitis. Lesions tend to clear rapidly on cessation of chelation therapy, and some respond dramatially to B-complex vitamins, especially B_6.

7. *Miscellaneous* — mild hypotension, nausea and diarrhea, abdominal cramps, febrile reactions, abnormal urinary findings.

8. *An Excessive Chelation Syndrome*— can be produced by the administration of dosages exceeding 3 grams in a twenty-four hour period for compounds of the EDTA series. The syndrome is charaterized by an acute febrile state four to eight hours following the infusion, accompanied by marked myalgia, headache, nasal congestion, urinary urgency, chills and a leukopenia, subsiding within eighteen to twenty-four hours, with reversion to normal clinical findings.

Clarke [62] and his associates have given more than 4,000 infusions of edathamil without complications, except for mild gastrointestinal upsets and local burning at the site of infusion. It was rarely necessary to stop the infusion.

In order to minimize the toxic complications: Seven [63] has recommended the following points for maximum safety:

1. Concentration—no greater than 0.5 per cent in 5 per cent D DW or D NS.

2. Rate of infusion—no more rapidly than 15 mgm. per minute.

3. Total dosage per twenty-four hours is not to exceed 3 gm. in an average sized patient or no more than 50 mgm/kg.

4. In prolonged administration, frequent rest periods are desirable, e.g., administration of drug for five days of each week.

5. Courses of therapy should be relatively short, with rest periods, e.g., course

of three weeks' duration, followed by a rest period of one week.

6. Concomitant administration of B vitamins, especially B_6 is advisable.

7. Periodic urinalysis, blood urea nitrogen levels and postprandial sugar levels.

Summary

Certain basic concepts of chelation therapy have been presented. The use of chelating agents is widespread in medicine and therapy with metal binding agents has applications in many dermatologic disorders. Occasionally, long term therapy may produce complications; however, these agents remain an effective form of therapy if administered carefully.

The concept that certain chronic and morbid disease processes might be related in part to metal binding anomalies suggests a new therapeutic approach in medicine. Clinical medicine has available for its use a class of drugs whose full potential is yet to be explored.

References

1. Berryman, George H.: What's New—No. 205, Spring 1958, pp. 10.

2. Martell, A. E. and Calvin, M.: Chemistry of the Metal Chelate Compounds, New York, Prentice Hall, Inc., 1952.

3. Chaberek, S. and Martell, A. E.: Organic Sequestering Agents, New York, Wiley, 1959.

4. Bailar, J. C: (Ed) The Chemistry of the Co-ordination Compounds, New York, Reinhold, 1956.

5. Martell, A. E.: Metal Chelate Compounds, Ann. Rev. Phys. Chem. 6:239, 1955.

6. Werner, A.:Veber Acetyl-acetor verbindungen des platius. Berichte Deutsche Chemische Gesellschaft. 34: 2584-2593, 1901.

7. Morgan, G. T. and Drew, H. D. Y.: Researches on Residual Affinity and Co-ordination -Pt. 2. Acetylacetones of Selenium and Tellurium. J. Chem. Soc. 117:1456, 1920.

8. Popovici A., Geschickter, C. F., Reinovsky, A., and Rubin, M.: Experimental Control of Serum Calcium Levels in Vivo, Proc Soc. Exper. Biol and Med. 74:415, 1950.

9. Peters, R. A., Stocken, L. A., and Thompson, R. H. S.: British Anti-Lewisite (BAL). Nature 156:616, 1945.

10. Bessman, S. P., and Doorenbos, Norman J.: Ann. Int. Med. 47:1036, 1957.

11. Mellor, D. P. and Maley, L.: Order of Stability of Metal Complexes, *Nature*, London, 161:436, 1948.

12. Foreman, H., and Trujillo, T. T.: The Metabolism of C14 labeled ethylenediamine tetraacetic acid in human beings, J. Lab. and Clin. Med. 43:566, 1954.

13. Berryman, George W.: Chelation Trace Metals and Disease, What's New, Summer, 1958, No. 206 p. 17.

14. Hadley, G. G., and Larson, N. L.: Use of Sequestrene as an Anticoagulant, Am. J. Clin. Path., 23:613, 1953.

15. Vallee, B. L.: Metabolic Role of Zinc, J.A.M.A., 162:1053, 1956.

16. Wacker, W. E., Ulmer, D. D., and Vallee, B. L.: Metallo-enzymes and Myocardial Infarction. New England J. Med., 255:449, 1956.

17. Peters, H. A., Woods, S., Eichman, P. L., and Reese, H. H.: Treatment of Acute Porphyria with Chelating Agents: Report of 21 cases, Ann. Int. Med., 47:889, 1957.

18. Seven, Marvin J., and Johnson, L. Audrey: Metal Binding in Medicine, Dept. of Medicine Hahnemann Medical College, June, 1959.

19. Bessman, S. P., Ried, H., and Rubin, M.: Treatment of Lead Encephalopathy with Calcium Disodium Versenate. M. Ann. Dist. of Columbia, 21:312, June, 1952.

20. Belnap, E. L.: EDTA in the Treatment of Lead Poisoning, Indus. Med. and Surg., 21:305, 1952.

21. Kitzmiller, K. V., Cholak, J., and Kehoe, R. A.: Treatment of Organic Lead (tetraethyl), Intoxication with Edathamil Calcium Disodium, A.M.A. Arch Indus. Health 10:312, 1954.

22. Stocken, L. A., and Thompson, R. H. S.: Reactions of British Anti-Lewisite with Arsenic and other Metals in Living Systems, Physiol. Rev., 29:168, 1949.

23. Brieger, Heinrich: The Use of Chelating Agents in Occupational Medicine, Metal Binding in Medicine, Seven, J. J.; and Johnson, L. A., Edit. Lippincott Co. pp. 200-204.

24. Maloof, C. C.: Use of Edathamil Calcium in Treatment of Chrome Ulcers of the Skin. A.M.A. Arch. Indus. Health, 10:312, 1954.

25. Rostenberg, A. Jr., and Perkins, A. J.: Nickle and Cobalt Dermatitis, J. Allergy 22:466, 1951.

26. Kurtin, A., and Orentrich, N.: Chelation Deactivation of Nickle Ion in Allergic Eczematous Sensitivity, J. Inves, Dermat., 22:441, 1954.

27. Gubner, R. S., and Kallman, H.: Treatment of Digitalis Toxicity by Chelation of Serum Calcium, A.J.M. Sc. 234:136, 1957.

28. Gubner, Richard S.: Cations and Cation-Binding in Regulation of Cardiac Function and Rhythm: Effects in Acute Cardiac Failure and Digitalis Arrhythmias. Metal Binding in Medicine, Lippincott Co., Seven, M., and Johnson, A. Ed., pp. 115-120.

29. Surawicz, Borys, MacDonald, Murdo, G. et al: The Effect of Intravenous Administration of Disodium and Dipotassium EDTA on Cardiac Amhythmias op. cit. pp. 121-131.

30. Meltzer, L. E. et al.: The Treatment of Coronary Artery Disease with Disodium EDTA op. cit.: 132-136.

31. Clarke, N. E., Clarke, C. N. and Mosher, R. E.: Treatment of Angina Pectoris with Disodium EDTA Am. J. Med. Sci., 232:(6)654 (Dec.) 1956.

32. Vaughan, J., and Tutt, M.: Use of Ethylenediamine Tetra acetic acid for Removing Fission Products from the Skeleton, Lancet, 2:856, 1953.

33. Grant, W. M.: New Treatment of Calcific Corneal Opacities, A.M.A. Arch. Opth. 48:681, 1952.

34. Proescher, F.: Anticoagulant Properties of Ethyl enediamine Tetraacetic Acid, Pro. Soc. Exper. Biol. and Med. 76:619, 1951.

35. Hadley, G. G., and Larson, N. L.: Use of Sequestrene as an Anticoagulant, Am. J. Clin. Path., 23:613, 1953.

36. Schroeder, H. A., Trace Metals and Chronic Diseases, Advances in Int. Med., 8:259, 1956.

37. Rukavina J., Mendelson, C. G., Price, J. M., Brown, R. R., and Johnson, S. A. M.: Scleroderma (Aerosclerosis). I. Treatment of three Cases of the Non-Calcific Variety by Chelation (EDTA) J. Inves. Dermatol., 29:273, 1957.

38. Tui, C., Kuo, N. H., and Simunangco, S.: Protein Studies in Scleroderma, J. Inves. Dermat. 15:181, 1950.

39. Woods, S. M., Peters, H. A., and Johnson, S. A. M.: Cutaneous Porphyria with Porphobilinogenuria: a Review and Report of a Case Treated by Chelation, A.M.A. Arch. Derm. 77:559 (May) 1958.

40. Klein R., and Harris, S. B.: Treatment of Scleroderma, Sclerodactylia, and Calcinosis by Chelation (EDTA), Am. J. Med. 19:798, 1955.

41. Rukavina, J., Mendelson, C. G. et al.: op. cit. pp. 273ff.

42. Rukavina, J., and Dahlen, R. F.: Chelation: Experimental Biochemical and Clinical Studies in Dermatology, Univ. Minn. M. Bull. 30:277, 1959.

43. Muller, S. A., Brunsting, L. A., and Winklemann,

R. K.: The Treatment of Scleroderma with the New Chelating Agent Edathamil: A.M.A. Arch. Dermat. 80:101, 1959.

14. Foreman, H., Hardy, H. L., Shipman, T. L., and Belknap, E. L.: Use of Calcium Ethylene-diamine + Etra-Acetate Acid in cases of lead Intoxication. Arch. Indus. Hyg. 7:118, 1953.

15. Price, J. M., Brown, R. R., Rukavina, J., Mendelson, C., and Johnson, S. A. M.: Scleroderma (acrosclerosis). II. Tryptophan Metabolism Before and During Treatment by Chelation (EDTA) J. Inves. Dermat. 29:289. 1957.

16. Price, J. M., Brown, R. R., and Peters, H. A.: Tryptophan Metabolism in Porphyria, Schizophrenia, and a Variety of Neurological and Psychiatric Diseases, Neurology 9:156, 1959.

17. Price, J. M., and Brown, R. R.: The Influence of Metal Binding Agents on Tryptophan Metabolism in Man. Metal Binding in Medicine. pp. 179-186.

48. Rukavina, J., Orkin, M., and Lynch, F. W.: The Effect of an Intravenous Chelating Agent, Edathamil Disodium (Na_2 EDTA) in Three Cases of Sarcoidosis, J. Inves. Dermat. 31:259, 1958.

49. Peters, H. A.: BAL Therapy of Acute Porphyrinuria, Neurology 4:477, 1954.

50. Peters, H. A.: Therapy of Acute Porphyria with BAL and Other Agents, Dis. Nerv. System. 17:177, 1956.

51. Peters, H. A., Woods, S., Eichman, P. L., and Reese, H. H.: The Treatment of Acute Porphyria with Chelating Agents: A Report of 21 Cases, Ann. Int. Med. 47:889, 1957.

52. Peters, H. A., Eichman, P. L., and Reese, H. H.: Therapy of Acute Chronic and Mixed Hepatic Porphyria with Chelating Agents, Neurology 8:621, 1958.

53. Peters, H. A.: Chelation Therapy in Acute, Chronic and Mixed Porphyria Metal Binding in Medicine pp. 190-199.

54. Peters, H. A.: Op. cit. p. 191.

55. Granick, S., and Vanden Schrieck, H. G.: Porphobilinogen and Delta-amino levulinic acid in acute porphyria. Proc. Soc. Exper. Biol. and Med. 88:270, 1955.

56. Manzerall, D., and Granick, S.: The Occurrence and Determination of Delta-Amino Levullnic Acid and Porphobilinogen in Urine. J. Biol. Chem. 219:435, 1956.

57. Watson, C. J., and Schwartz, S.: The Excretion of Zinc Uroporphyrin in Idiopathic Porphyria, J. Clin. Invest. 20:440, 1941.

58. Gunther, H.: Die Bedeutungder Hamato Porphyrine in Physiologie and Pathologie, Ergelon, Allg. Path U-Path. Anat. 20:608, 1922.

59. Kurtin, A., and Orentrich, N., op. cit. pp. 441-445.

60. Maloof, C. C., op. cit. pp. 312 318.

61. Dudley, H. R., Ritchie, A. C., Schilling, A., and Baker, W. H.: Pathologic Changes Associated With the Use of Sodium Ethylene Diamine Tetra-acetate in the Treatment of Hypercalcemia. New England J. Med. 252:331, 1955.

62. Clarke, N. E., Clarke, C. N., and Mosher, R. E.: Treatment of Angina Pectoris with Disodium Ethylene Diamine Tetraacetic Acid. Am. J. M. Sc. 232-651, Dec. 1956.

63. Seven, M. J.: Observations on the Toxicity of Intravenous Chelating Agents. Metal Binding in Medicine. pp. 95-103.

64. Clarke, N. E., Clarke, C. N., and Mosher, R. E.: The "In vivo" Dissolution of Metastatic Calcium. Am. J. M. Sc. 229:142-149, February, 1955.

Medical College Reforms

In the midst of the numerous proclamations and pledges of reform in medical teaching which annually deluge the country, the College of Physicians of New York city exhibits an earnest determination to elevate the standard of merit of its graduates by making rigid examinations the test for award of its diplomas. Of 146 candidates for graduation, only 96 were successful in meeting the requirements exacted. It can scarcely be surmised that this large percentage of failures was attributable to an accidental accumulation of poor material. My own experience as a teacher convinces me that year by year the medical classes of the University of Louisiana, in the aggregate, show improved states of primary education, and are thus better fitted to prosecute professional study.

The percentage of rejections in the Medical Department of the University at its latest examination fell considerably below that of the College of Physicians and Surgeons, but it was larger than upon former years, and sufficiently great to impress its students with an additional realization of the fact that the faculty were still determined to make its diplomas objects worth a struggle to obtain, and permanently valuable possessions when once won.

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A Pollen Survey in the Baton Rouge Area*

• A report on the kinds of atmospheric pollens, their seasonal appearance and disappearance, and concentration.

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Introduction

POLLEN surveys are of benefit to the physician not only in estimating the severity of a particular hay fever season but also in discovering previously unrecogized agents. The clinician is aware of correlation between the presence and abundance of an antigenically potent pollen and allergic symptoms. Recent volumetric studies demonstrate their superiority over the gravimetric slide methods of pollen study in giving a better picture of the abundance and hourly fluctuation in concentration of pollens and molds.[1-4] Because of the variability of daily and annual volumetric-gravimetric ratios, it is not possible to convert gravimetric results into volumetric equivalents with any accuracy.[22] The gravimetric method is still the only practical pollen sampling procedure which is applicable on a wide scale. Recent surveys and reports have been made employing the gravimetric technique.[5-9, 25]

Because we know of no full year pollen study reported for the Baton Rouge area, it was decided to undertake a gravimetric survey for the year, January, 1959 to January, 1960. The purpose of this report is to supply information regarding the kinds of atmospheric pollens, their seasonal appearance and disappearance, and concentration.

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Vegetation

Baton Rouge possesses the first sizeable elevation above the delta along the Mississippi River and is surrounded by low swamps and bayous. It has a semi-tropical, almost coastal climate, due to its position (30° 32′ N and 90° 09′ W) and its proximity to the local bodies of water. It has a mean annual temperature of 67.5° F, a mean annual rainfall of 59.13″.

The first plant killing freeze is usually in the first week of December, and the last killing freeze usually occurs in the middle of March. Conditions for plant development, therefore, are excellent any time of the year and usually some plant species are in bloom every day of the year. The plants are a mingling of tropical and temperate species with a considerable admixture of evergreen cultivated plants.

The soil in the lowlands is alluvial flood plain soil, of alkaline silt-clay composition, and the bluff and terrace have a neutral to acid silt-loam soil. The original vegetation in this area is an extension of the eastern United States deciduous forest. Along the [12, 23] levees and bayous, cottonwood, sycamore, hackberry, gum, and willow grow as well as cypress and oak. Pine woods are present in the uplands and along river drainage. In the city, there is a great amount of weedy vegetation in vacant lots and along drainage canals.

Procedure

During 1959, from January 26th to the end of the year, and from January 1st to January 26th, 1960, pollen was collected in the Baton Rouge area. Two sampling devices were used; one located on the eastern border of the city and another about

two miles to the west of the first. The sampling device used was that recommended by the Pollen Survey Committee, American Academy of Allergy.[10]

Each device was placed on top of a flat roof, one story high. Trees were moderately abundant in both sites, which are residential areas. During the tree season, when pollen was most abundant, slides were exposed for twenty-four hour periods. When exposed for longer periods, an average figure was used representing the number of pollen grains per twenty-four hours. Glass slides measuring 1 by 3 inches were coated on one surface with a thin layer of a mixture of 75 per cent petrolatum and 25 per cent mineral oil and placed in the pollen device. After exposure, a drop of Calberla's solution was applied and a cover slip mounted for counting and identification of pollen. It was determined that the diameter of the low power field was 1 millimeter, using a 15 x ocular and a 10 x objective. The slide was traversed from side to side four times, thereby covering an area of 100 mm^2 or 1 cm^2. The results are recorded as pollen grains per cm^2. Identification of pollen was facilitated by use of a set of comparison slides furnished by the American Academy of Allgery. Also, specific field specimens were taken for reference.

Observations

Pollen grains of the same species and of closely related species tend to be alike.[11, 24, 28] The wall of a mature pollen grain consists of two membranes, an intine and an exine. By the variations in the characteristics of these membranes, pollen is identified. The size of pollen grain varies a great deal in different groups of plants although the usual size is between 7 and 35 microns. The pollen grains tend to assume an ellipsoidal or spheroidal form. Many pollens have conspicuous markings, and they may develop in groups such as tetrads. The descriptions and measurements of pollen grains in this paper are essentially those found in the text "Pollen Grains" by R. P. Wodehouse.

The tree season in winter-spring was the most impressive both in the quantity and the variety of pollens collected. There are approximately 40 varieties of wind-pollinated trees in the area.[12, 26, 27] Pollens of juniper and cypress, *Cupressaceae* and *Taxodiaceae*, were first encountered during the last week in December, followed by elm, *Ulmus*, and maple, *Acer*, in the third week of January. Birch, *Betulaceae*, pollen appeared the third week in February; and, during the first and second weeks of March, the cottonwood, *Populus*, oaks, *Quercus*, pines, *Pinus*, red gum, *Li-*

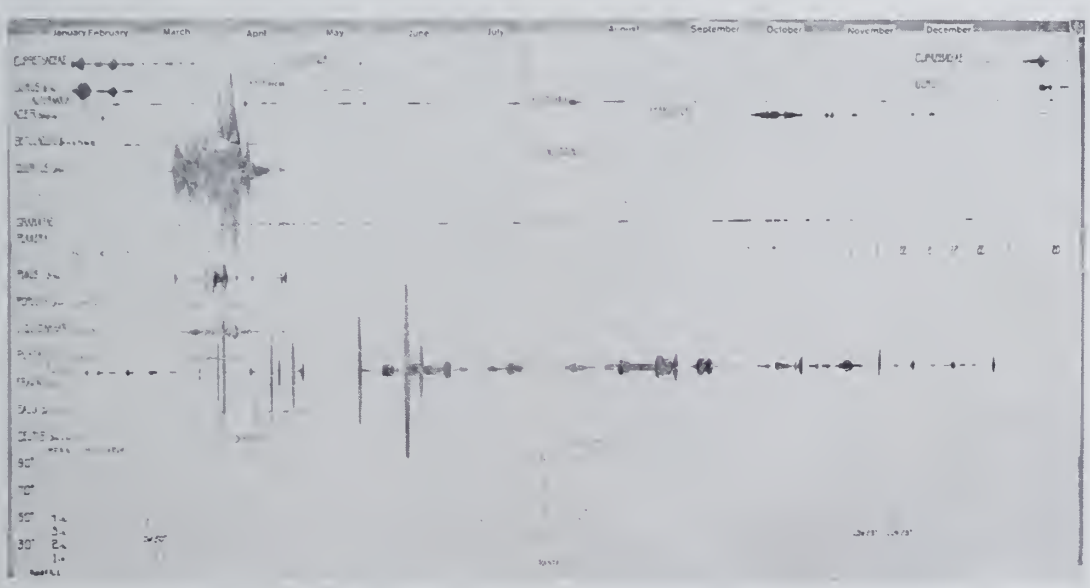


Figure 1. Onset and Concentration of Atmospheric Pollens—Baton Rouge, 1959
Each small square on graph represents 5 pollen grains per cm^2 of slide area per 24 hours.



Figure 2. Total Pollen Concentration of Atmospheric Pollens—Baton Rouge, 1959

quidambar, and sycamore, *Platanus*. The ash, *Fraxinus*, willow, *Salix*, and hackberry, *Celtis*, appeared during the third week in March. The season ended with pecan, *Carya*, found from the first week in April to the last week in May. Some privet, *Ligustrum*, pollen was collected in mid-May. The pollen of greatest abundance was oak, which reached a peak in the last week of March. Most trees completed pollination by the first week of May. (Figures 1, 2, 3)

Detailed observations on the various pollens found are as follows: Junipers and Cypress, *Cupressaceae* and *Taxodiaceae*—This term is used to include plants with the pollen as described below. Such plants found in this area are: arborvitae, *Thuja* (1+),* cypress, *Taxodium* (4+), China fir, *Cunninghamia* (1+), and juniper, *Juniperus* (2-3+). This pollen was seen from the last week in December to the second week in April. The peak was during the last week of January and the first two weeks in February. The pollen grains are spheroidal, 20 to 32 microns in diameter, have a very thin transparent exine which easily ruptures and is often cast off when the pollen grain is wet. The exine is covered with flecks; the intine is thick, and makes up one half of the bulk of the grain. The inner border of the intine is irregular and star shaped. This pollen is considered of secondary importance in the production of hay fever in this area.

Elm, *Ulmus*—Pollination was noted to begin during the second week in January, peak during the last week in January, and was completed by the third week in February.† The pollen grains are oblate, 23 to 38 microns in diameter, have 3 to 7 germ pores which are equatorially arranged. The texture of the exine is characterized by slight undulations. Elm pollen is abundant, is allergenic, and therefore an important hay fever tree. The elms (3+) in this area are the Winged Elm and the American Elm. (The Water Elm is described later.)

Maple, *Acer*—This pollen was not found in abundance; it was noted during the last week in January and the first two weeks

* The relative abundance of the plants in the Baton Rouge area will be expressed by a system of plusses in this paper as follows—0- absent, 1+ scarce, 2+ common, 3+ abundant, 4+ very abundant.

† This is later than is normal for Baton Rouge in other years (personal communication — Dr. Clair A. Brown). Specific weather factors in 1959 may account for this and some of the other pollen found in 1959.

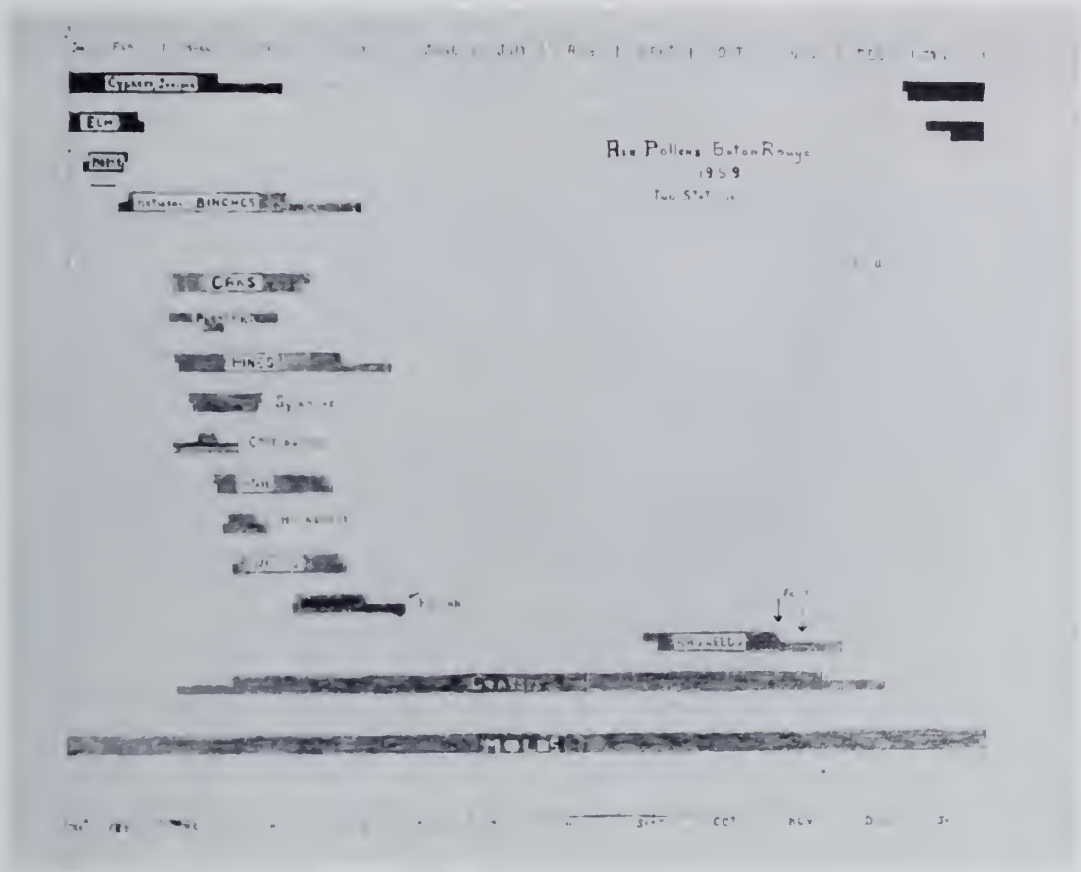


Figure 3. Onset and Termination of Atmospheric Pollens Observed—Baton Rouge, 1959

in February. The pollen is oblately spheroidal, from 28 to 36 microns in diameter, usually tricolpate, and has a granular texture with the granules arranged in striae. Maples are both insect and wind pollinated. In the Baton Rouge area there is the Drummond Red Maple (3+). Maple pollen is considered to be of secondary importance in allergy.[13]

Birch Family, *Betulaceae*—This season begins in mid-February, reaches a peak in mid-March, and ends early in April; an occasional grain was found until mid-May. The pollen measures 20 to 40 microns, is faintly granular, spheroidal or oblately flattened, has 3 to 7 germ pores equally spaced around the equator. Most characteristic, however, is the aspidate area around the germ pores (shield like area around the germ pores). Birch pollen has been shown to be antigenic, but little attention has been paid to other members of this family. Members of this family found in Baton Rouge are: River birch, *Betula nigra* (2+), American hornbeam, *Carpinus caroliniana* (2+), and Eastern hophornbeam, *Ostyra virginiana* (1+). The following have pollen grains which are spheroidal and aspidate, and therefore similar to birch pollen, probably represented in the total birch count, and responsible for such an apparent prolonged birch season: Wax myrtle, *Myrica cerifera* (4+), and Osage orange, *Maclura pomifera* (1+), are both present in Baton Rouge. A pollen similar in appearance to the above, but smaller (14 micra), is that of Paper mulberry, *Broussonetia papyrifera* (1+), and Red mulberry, *Morus rubra* (2+). It also is probably included in the *Betulaceae*.

Oaks, *Quercus*—The onset of pollination was during the first week in March, peaked during the third week in March, and ended in mid-April; a few granules were seen until the last week in April. The pollen grains are spheroidal, oblately flattened, and angular in outline. They

are tricolpate with a hyaline body in the center of each furrow. The exine is granular and thin. The hyaline wedge plugs give it its most distinctive feature. The grains of the different species are much alike, and there is no reliable criterion to distinguish them. Oak is regarded as moderately active in regard to the other tree pollens, but not as antigenic as ragweeds and grasses.[14] The following oaks are found in the Baton Rouge area: Water oak, *Quercus alba* (2+), Laurel oak, *Quercus laurifolia* (1+), Overcup oak, *Quercus lyrata* (2+), Nuttall oak, *Quercus nuttallii* (2+), Cherrybark oak, *Quercus pagoda* (3+), Willow oak, *Quercus phellos* (2+), Shumark red oak, *Quercus shumardii* (2+), and Live oak, *Quercus virginiana* (4+).

Pines, *Pinus*—This term is used to indicate all winged coniferous pollen grains seen, and includes Pines, *Pinus*, and Japanese yew, *Podocarpus macrophylla* (1+). The first week in March marks the onset of pollination, with peaking during the third week in March until mid-April. An occasional pollen grain is seen until the second week in May. Pine pollen measures 45 to 100 microns exclusive of bladders. The body of the moistened grain is in the shape of a double convex lens. The dorsal side has a thick rugged exine; on the ventral side are two large air sacs. The pollen is carried for long distances but has little or no antigenic activity.[13, 14] In the Baton Rouge area are the Slash pine, *Pinus elliottii* (3+), the Spruce pine, *Pinus glabra* (2+), the Longleaf pine, *Pinus palustris* (2+), the Loblolly pine, *Pinus taeda* (4+), and the Shortleaf pine, *Pinus echinata* (1+).

Cottonwood, *Populus*—The pollen appears from the first through the fourth week of March; only a few granules were found. The grains are spheroidal, acolpate (no germ furrows), very thin, and the exine often fragmented but minutely reticulate or granular. The intine is thick. The grains are highly adapted to wind pollination and cottonwoods disperse huge amounts of pollen. The Western Cottonwood, *Populus Sargentii*, is mentioned as being antigenic but there is little mention of the Eastern Cottonwood, *Populus Occidentalis* (2+), which is found in the Baton Rouge area.

Red Gum, *Liquidambar styraciflua*—This pollen appears in the first week in March, and lasts until the first week in April; the peak is during the second and third weeks in March. The pollen grains are spheroidal around 38 microns in diameter, have 10 to 20 circular pores; the pore membranes bulge and are flecked. The exine is deeply pitted with minute round pits. It has been suspected but not known to cause hay fever. Red gum (4+) is common and is widely distributed throughout Louisiana.

Sycamore, *Platanus occidentalis*—Noted to pollinate from the third week in March into the first week in April. The pollen was at no time abundant. The grains are oblately flattened, various in size, 18 by 14 microns to 21 by 17 microns tricolpate, with furrows meridionally arranged; the furrows are flecked with the same granules as are found on the exine. This pollen is considered to be only moderately allergenic.[14] Sycamore (2+) is very abundant on the Mississippi River bottomlands.

Ash, *Fraxinus*—Pollination lasts from the third week in March to the fourth week in April; only small amounts of the pollen were collected. The grains measure around 24 microns, are flattened and angular. They usually have four furrows, and a reticulate pattern on the exine. Ashes produce large quantities of pollen which are borne for great distances. Green ash, *Fraxinus pennsylvanica* (1+) is common in Louisiana, but the White ash, *Fraxinus americana*, once abundant, is scarce. Allergy to Ash pollen is considered to be rare.[14]

Willow, *Salix*—Pollination onset is the third week in March, peak in first week in April, and termination in the last week in April. The grains are spheroidal flattened, three lobed, 18 microns in diameter, tricolpate, and have a reticulate exine with sharply angular lacunae and vertical ridges. Willows are primarily insect pollinated, but the pollen is nevertheless

caught on atmospheric slides. It is sometimes important in hay fever. Black willow, *Salix nigra* (3+) is widely distributed in Louisiana.

Sugarberry or Hackberry, *Celtis laevigata*—Onset of pollination is the third week in March and lasts until the first week in April. The grains (Wodehouse)

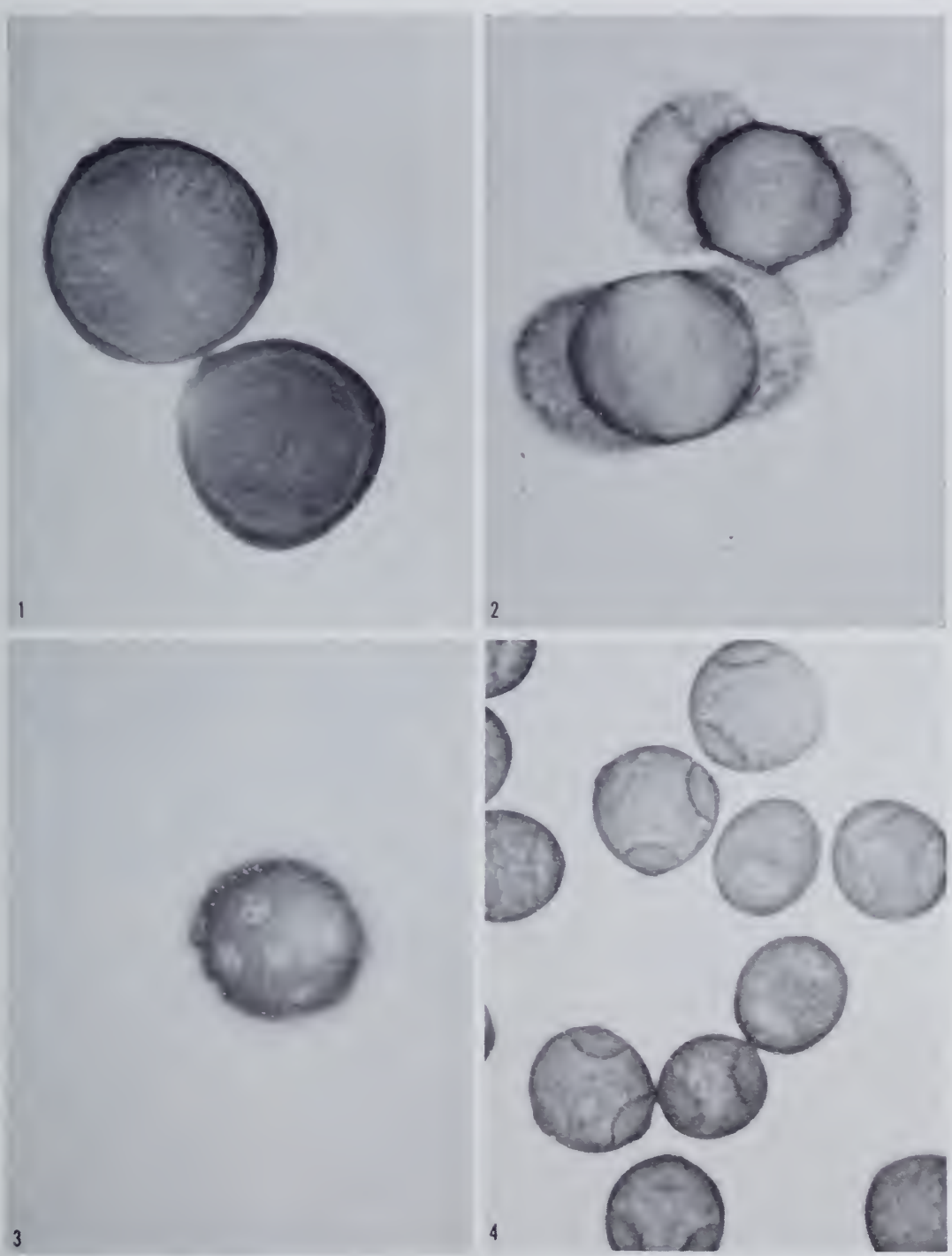


Figure 4. 1. Pecan Pollen, meridional view.
2. Japanese yew pollen.
3. Sweet gum pollen. Note bulging pore membranes.
4. Blue beech pollen. Note three pores with aspidate subexineous thickening surrounding pores.

are spheroidal, measure 40 microns in diameter, have three germ pores equally spaced about the equator, and are aspidate but have no protrusions above the surface of the grain. Little attention has been paid to the antigenic qualities of hackberry. Hackberry (3+) is widely distributed in Louisiana.

Privet, *Ligustrum Spp*—A few grains were seen on slides during the second and

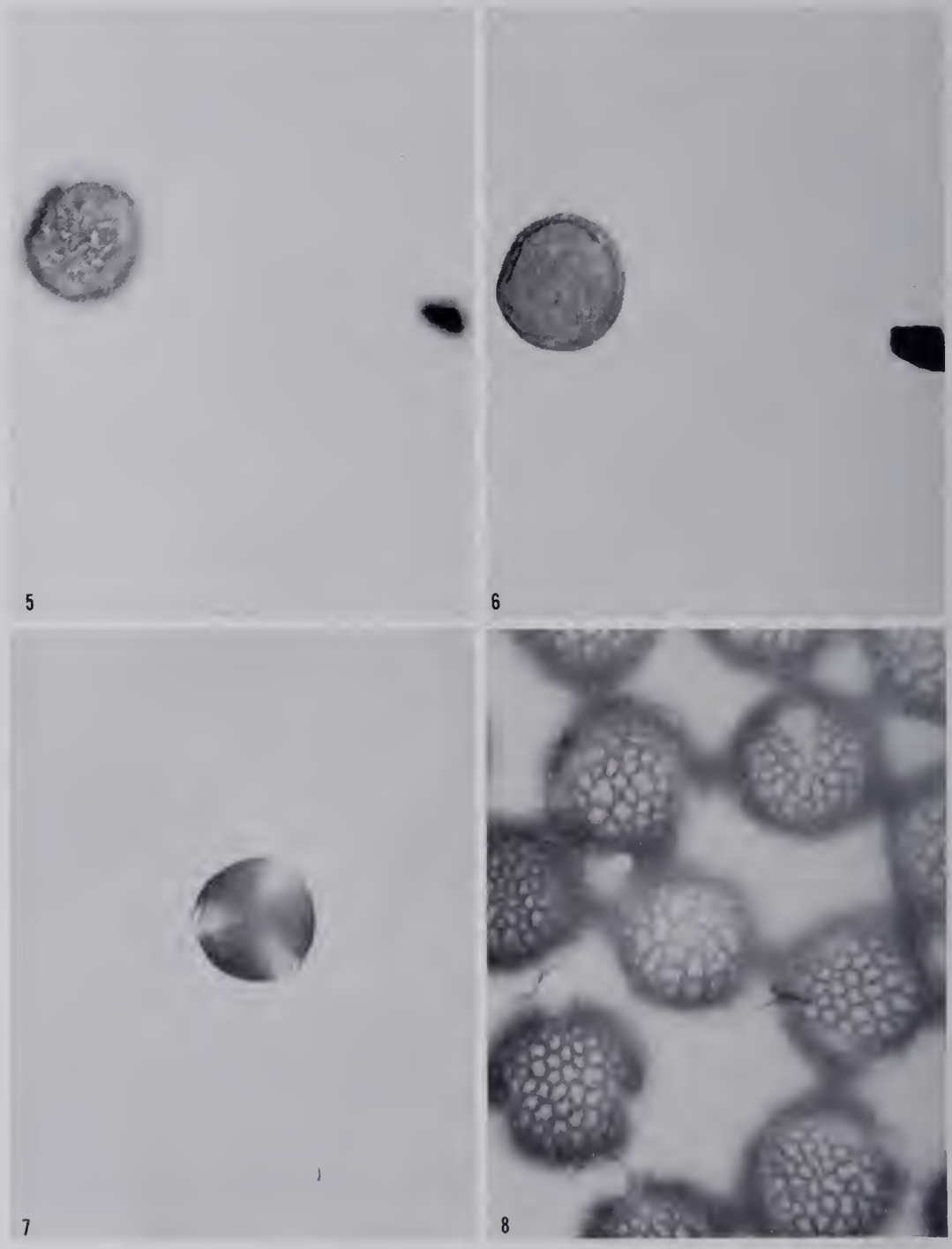


Figure 5. 5. Cottonwood pollen. Surface detail; note fragmentary exine.
6. Cottonwood pollen. Meridional view; note thick exine.
7. Oak pollen. Note three furrows, and bulging exine.
8. Ligustrum pollen. Note beaded appearance of exine.

the third week in May. The grains measure 28 to 30 microns, have a coarse, reticular exine with large lacunae, presenting a beaded appearance; there are usually three furrows. For the most part it is insect pollinated[21] and probably not an important cause of hay fever; however, some pollen is collected on slides.[21] Ligustrum (3+) is a widely planted shrub in Baton Rouge.

Pecans and Hickories, *Carya* — Pecan pollen was first note during the second week in April, and a few grains were found until the first week in June. The grains are spheroidal, about 45 microns in diameter, have three germ pores, subexinous thickenings, and a granular texture. Pecan, *Carya illinoensis* (2+), is an important source of hay fever pollen.[15]

Planera tree or Water elm, *Planera aquatica* (1+)—Pollen was noted during the last week in February into the first week in April. These pollen grains were not abundant. The grains are flattened, 30 to 55 microns in diameter, usually have four germ pores, each surrounded by a subexinous thickening.

The relative abundance of plants other than trees in the Baton Rouge area[12] is as follows: grasses (4+), ragweeds (4+), composites (4+), amaranths (2-3+), chenopods (1-2+).

Grasses, *Gramineae*—Grass pollen first appeared on the slides during the first week in March, was present in meager amounts, and disappeared after the first winter freeze on the seventh of November. A few granules reappeared during the second week in December, but, with this exception, grass pollen was not observed when the mean temperature dropped below 50° F. Grass grains are usually spheroidal, vary in size, have a thin unsculptured exine with a slightly granular surface, and a thick hyaline intine. In the interior, starch granules are packed; there is a small hyaline body opposite the single germ pore. It is not possible to identify grass pollen as to species. Pollen from wild grasses measures less than 35 microns, from cultivated cereals, over 35 microns with corn being over 125 microns. In Paton Rouge, the earliest grass is annual blue grass, *Poa annua* (2+). The summer grasses are carpet grasses, *Axonopus Spp* (3-4+), and dallis grass, *Paspalum dilatatum* (3-4+). In Baton Rouge, crab grass, *Digitaria sanguinalis* (3+), yard grass, *Eleusine indica* (2+), and Johnson grass, *Sorghum halapense* (4+), are found during the summer and fall. Fall grasses are smut grass, *Sporobolus poiretii* (2+), Bermuda grass, *Cynodon dactylon* (4+), and beard grass, *Andropogon Spp* (3-4+).

The practice of cutting grasses on lawns tends to increase their pollinating season and to prevent the occurrence of peaks. Bermuda grass is the most active hay fever grass in the South, a common lawn and field grass. Italian rye grass, a lawn grass, *Lolium multiflorum* (1-2+), is found to some extent in Baton Rouge and is a known antigen. Johnson grass is considered an important hay fever grass, but some believe its pollen is too large to permit wide dispersal. All grass pollen contains similar allergenic qualities, though many allergists use only local grass pollens in skin testing.

Amaranths and Chenopods, *Amaranthaceae* and *Chenopodiaceae*—A few grains were found on slides during the first and last week of August. This pollen usually appears about a month before ragweed and persists into September. The moist, expanded pollen grains measure 19 to 35 microns, have a thin and granular exine, are psilate (unadorned with ridges or projections), and cribellate (possessing a number of rounded germinal apertures equally spaced). Because of the close botanic relationships, and the similar appearance of the grains, it has been assumed that these species possess cross reactions. These groups are not of great allergenic importance because of their low antigen quality and the poor production of pollen by some of them. Found in Baton Rouge are: redroot pigweed, *Amaranthus retroflexus* (3+), spiny amaranth, *Amaranthus spinosus* (3+), green amaranth, *Amaranthus viridis* (3+), lamb's quarters, *Chenopodium alba* (1+), and Mexi-

can tea, *Chenopodium ambrosioides* (1-2+).

Ragweed tribe, *Ambrosiaceae*—This pollen appeared during the third week in September, peaked the first week in October, and was last seen the first week in November. Generally, however, it appears during the last week in August or the first week in September. The termination correlated with the first fall frost, with a

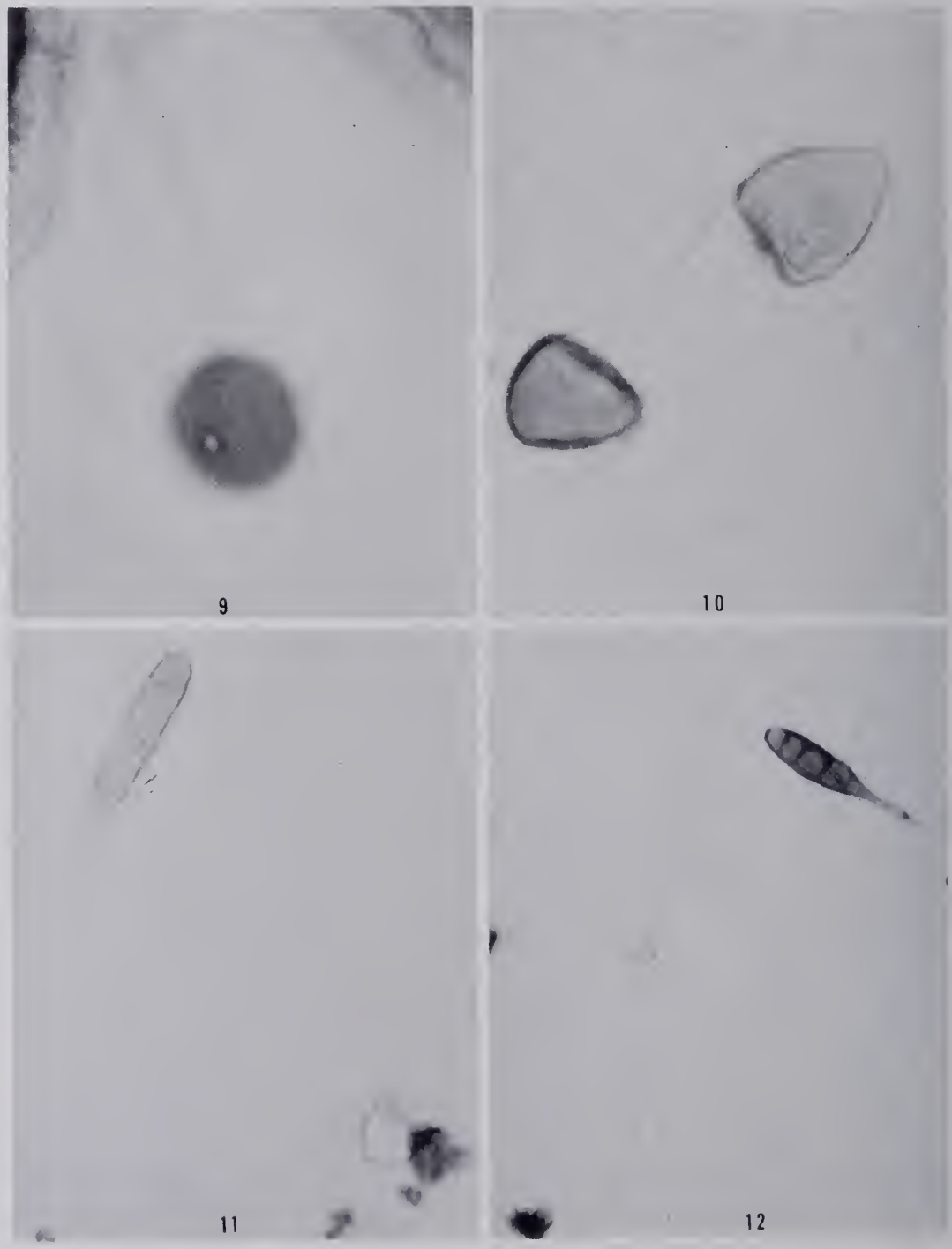


Figure 6. 9. Grass pollen. Note single germ pore.
10. Sedge pollen. Note pear-shape.
11. Fungus spore, probably Helminthosporium.
12. Fungus spore, Alternaria.

temperature low of 28° F. on November 7, and a second frost on November 17, with a low of 29° F. A few unidentified granules of *Ambrosiaceae* were seen in December and January.

There are common antigenic qualities in the ragweed, composite, and the chicory families. Ragweed is related to the insect pollinated sunflower, aster, and goldenrod. There is a great abundance of pollen wherever short and giant ragweed are located. Studies with partial ragweed extermination in New York City area reveal that up to 90 per cent extermination in one borough resulted in no appreciable decrease in pollen counts done by gravimetric method, presumably due to air contamination from adjacent areas.[16] Pollen counts done in areas where no ragweed plants were present reveal that the pollen can travel for considerable distances. Smith and Rooks[3] by using a volumetric sampling device confirmed earlier gravimetric studies relating to the diurnal variation of air borne ragweed pollen: 47 per cent appeared from 6:00 A. M. to noon; 43.6 per cent noon to 6:00 P. M., 5.8 per cent 6:00 P. M. to midnight, and 3.6 per cent midnight to 6:00 A.M. For the most part ragweeds pollinate in late summer when the days become shorter, i.e., it is the shortening of the day that provides the stimulus for flowering.[17] For example, in the North ragweed pollen may appear during the second week in August; while in the South, it is the first week in September. The anthesis of cockleburs occurs at the same time as ragweed, and its pollen strongly interacts with ragweed. Cocklebur is, however, a minor factor in allergy because there is only a small amount of pollen per plant. In Baton Rouge, the following are found: short ragweed, *Ambrosia elatior* (3-4+), giant ragweed, *Ambrosia trifida* (3-4+), groundsel-tree, *Baccharis halimifolia* (3+), marsh elder, *Iva ciliata* (4+), and cocklebur, *Xanthium Spp* (3+). Pollination was noted as early as July and as late as November. The pollen granules are spheroidal or oblately flattened, 16 to 30 microns, tricolpate usually, and have three meriodionally aranged germinal furrows. The exine is granular, usually with spines.

Plantains, *Plantago* (1+), the docks, *Rumex* (2+), and the sedges, *Carex* (+3) are present in the Baton Rouge area and probably contribute a minor amount of pollen in summer and fall.

Fungi, *Alternaria* and others — Fungi were found on slides the year round, but only sparsely during December. They were most abundant from March to September. The conidia of *Alternaria* are tadpole shaped, brown, and have cross walls in two planes. No attempt was made to differentiate the other spores. Allergy to extracts of fungi is well recognized as a common finding encountered in skin testing.[18-20] Their relative importance as a cause of hay fever and asthma is to be determined. Cross sensitivity between the fungi is not as great as within pollen groups.

Summary

A study of the atmospheric pollen in Baton Rouge during 1959 by the gravity slide technique was done using two observation stations. The late winter-spring pollen observed was dominated by that from trees beginning with the cypress group and ending with the pecans. Grass pollen was found in modest amounts most of the year except for a short period in December and January. Weed pollen was observed from late summer into the winter months with ragweed pollen found in mid-September and ending abruptly with the first frosts in November. Fungi were seen on the slides throughout most of the year and in greatest abundance during spring and summer.

The information gathered in this study of the pollen content of the air throughout the various seasons of 1959 should serve as a useful guide to the kinds and amounts of anemophilous plant pollen in the air in the Baton Rouge area.

Acknowledgments

The authors wish to express their appreciation to Dr. Clair A. Brown, Professor of Botany, Louisiana State University, for his most helpful assistance re-

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References

1. Harrington, J. B., Gill, M. A., Warr, B. S.: High Efficiency Pollen Samplers for Use in Clinical Allergy, J. Allergy 30:357, 1960.

2. Hyde, H. A.: Volumetric Counts of Pollen Grains at Cardiff, J. Allergy 30:219, 1960.

3. Rooks, Roland, Smith, R. D.: Diurnal Variation of Air Borne Ragweed Pollen, J. Allergy 25:36, 1954.

4. Blumstein, George I.: Parallel Volumetric and Gravimetric Pollen Counts, J. Allergy 30:464, 1959.

5. Collins-Williams, C., Best, C. A.: Atmospheric Pollen Counts in Toronto, Canada, J. Allergy 26:461, 1955.

6. Pipes, David McK.: Atmospheric Pollen and Mold Spores in the Ashville Area, Ann. Allergy 13:533, 1955.

7. Friedewald, V. E.: Pollen Survey of West Texas, Ann. Allergy 11:183, 1953.

8. Head, S. Conrade, Steward, A. N.: Airborne Pollen and Fungus Spores in Oregon, Miscellaneous Paper 61, September, 1958, Agricultural Experiment Station, Oregon State College, Corvallis.

9. Kessler, Arthur: Survey of Airborne Pollen and Mold Spores in Israel, Ann. Allergy 16:445, 1958.

10. Standard Technic for Atmospheric Pollen Testing by the Gravity Method, O. C. Durham, Abbott Laboratories, North Chicago, Illinois, or American Academy of Allergy, 208 East Wisconsin Ave., Milwaukee 2, Wisconsin.

11. Wodehouse, R. P.: Pollen Grains, New York, Hafner, 1959.

12. Brown, Clair A.: Personal Communication, Professor of Botany, Louisiana State University, Sauter, M. and Durham, O. C.

13. Vaughan, W. T., and Black, J. N.: Practice of Allergy, 3rd Edition, Saint Louis, Mosby, 1954.

14. Sheldon, John M., Lovell, Robert G., Mathews, Kenneth P.: A Manual of Clinical Allergy, Philadelphia, W. B. Saunders and Co., 1953.

15. Derbes, V. J.: Regional Allergy—A Symposium, Chapter 24, C. C. Thomas, 1955.

16. Cohart, Edward M., Kandle, Roscoe P.: The Effects of a Ragweed Control Program on Ragweed Pollen Counts, J. Allergy 30:287, 1959.

17. Wodehouse, Roger P.: The Hay Fever Plants of the South, Southern Medical J., 34:986, 1941.

18. Prince, H. E., Kaplan, M. A., Halpin, L. F.: The Importance of Inhalant Mold Sensitivity in Atopic Dermatitis, Ann. Allergy 18:186, 1960.

19. Davis, Ethel M.: Mold Sensitivities in Asthmatic Children, Ann. Allergy 18:65, 1960.

20. Merksamer, David, et al: Atmospheric Molds as Allergens in New York Metropolitan Area, J. Allergy 29:60, 1959.

21. Thiberge, N. F.: Trees for Street Ornamentation, New Orleans Medical and Surgical Journal 87:666, 1934.

22. Durham, Oren C.: The Centennial of Pollen Aerobiology, Ann. Allergy 17:923, 1959.

23. Penfound, William T.: Pollination of Anemophilous Trees in New Orleans, Ann. Allergy 2:315, 1944.

24. Hyde, H. A., and Adams, K. F.: An Atlas of Air borne Pollen Grains, London, Macmillan & Co., Ltd., 1958.

25. Walkington, David L.: A Survey of the Hay Fever Plants and Important Atmospheric Allergens in the Phoenix, Arizona, Metropolitan Area, J. Allergy 31:25, 1960.

26. Brown, Clair A.: Woody Plants of Louisiana, A Check List, Bulletin #8, Louisiana Forestry Commission, 1957.

27. Brown, Clair A.: Commercial Trees of Louisiana, Louisiana Forestry Commission, 1956.

28. Wodehouse, R. P.: Hay Fever Plants, Waltham, Mass., Chronica Botanica Co., 1935.

Discussion

Dr. Neill K. Weaver (Baton Rouge): Drs. Harris and Madey have carried out and here reported the first systematic, detailed, and allergenically-oriented pollen survey in the Baton Rouge area. As they point out, the local flora consists of a mixture of semi-tropical and temperate zone specimens. This area is somewhat unique, botanically speaking. A practitioner of allergy would be ill advised to apply in this area information on allergenic pollen derived from a mid-western temperate zone city, say St. Louis or Chicago, or from a more nearly tropical city, as Miami. And, I am convinced that more subtle but clinically significant differences exist in the timing, amounts and varieties of aero-allergens released locally as compared to New Orleans or Shreveport. Hence, their study should be most welcome to local allergists (and their patients!).

The authors' botanical treatment of the aeropollens is skillfully done, and more complete than is usually reported in a survey of this kind. Their morphological descriptions should prove useful to others who may be motivated to carry out similar observations. The duration of anthesis of the significant wind pollinated plants for 1959 seems well delineated. For example, they found the onset for the Ambrosiaceae to be some 3 or 4 weeks later than usual; this corroborates our clinical observation of delayed occurrence of symptoms in ragweed sensitive patients last fall. I also suspected, from clinical experience, that the amount of fall pollen was reduced last year. Their quanitiative charts reveal that pollen of the ragweed group occurred in low or moderate amounts. In contrast, spectacular quantities of tree pollen, especialy oak, were recorded at both sampling stations. It is indeed fortunate that tree pollen generally show a low order of antigenicity, causing symptoms in relatively few patients. The grass pollinating season was found to be prolonged, but of low intensity, as is characteristic of the southernmost states.

Drs. Harris and Madey are to be highly commended for undertaking and reporting this survey. It is hoped that they will see fit to continue and extend their observations. For it is only by the temporal correlation of qualitative and quantitative data of local airborne pollen with clinical situations (the results of skin tests, and—more particularly—the occurrence of allergic symptoms in patients) that the practice of allergy in this area will achieve a truly scientific basis.

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Editorial

Medical Assistance For The Aged In Public Law 86-778

In the Congress which convened in January 1961, American medicine and the public again face a serious threat of state medicine. Twelve years ago, the same threat was imminent when it was backed by the socialist group and the Truman administration. In a courageous and forceful campaign the dangers of socialized medicine were explained to the nation, and the plan was defeated. Its proponents, however, said at the time and lived up to their plan of attempting to establish state medicine through increments of congressional legislation or state medicine by the back door.

Many bills with this design have been presented by the socialists to Congress. Most of these have failed of enactment. A few have succeeded, such as the law which provided medical care to Social Security beneficiaries who have become disabled. In the past two years, the outgrowth of this type of legislation has appeared under the guise of providing medical care for persons on the Social Security rolls who had passed 65, the Forand type of legislative proposal.

Thirty-three such bills were presented to the Eighty-sixth Congress, dealing in some way with health care of the aged. Many of these bills seem to imply that as those who were aging passed the point of 65, a state of dire need supervened; that professional and economic constituents of medical care for this group were lacking; and that the only way to meet this pressing need was through a compulsory Social Security tax providing universal coverage for the group in question.

The proponents of such laws ignore the fact that the aged have always been provided for within the limits of family and community resources. That a man ages as he lives and there is no rapid transition from economic competence to aged deficiency in the majority of persons. Such social planners should also realize that preparation for age has long been an attribute of the socially adequate person, and approximately two-thirds of those beyond

65 have some form of prepaid medical expense insurance.

The successful politicians previous to the recent presidential campaign correctly estimated that the election might be decided by less than 1 per cent of the voting electorate. There are sixteen million persons over 65 in this country. Of these 2.4 million already are on state welfare rolls. Approximately 12 million others are Social Security beneficiaries. The support of 10 per cent of the latter prospectively gained through a tax supported program could conceivably swing the election.

To this end many bills of the Forand type were directed. Organized medicine placed itself in opposition to this form of legislation. In a statement of policy adopted by the House of Delegates of the American Medical Association in June 1960, it was stated:

> "Personal medical care is primarily the responsibility of the individual. When he is unable to provide this care for himself, the responsibility should properly pass to his family, the community, the county, the State, and only when all these fail, to the Federal Government, and then only in conjunction with the other levels of government, in the above order. The determination of medical need should be made by a physician and the determination of eligibility should be made at the local level with local administration and control. The principle of freedom of choice should be preserved. The use of tax funds under the above conditions to pay for such care, whether through the purchase of health insurance or by direct payment, provided local option is assured, is inherent in this concept."

Organized medicine, on the basis of such a policy contributed to the defeat of these socialistic proposals. It also contributed substantial support to a different type of bill, the Kerr-Mills bill, which became Public Law 86-778. This law appropriates an extra 202 million a year in public assistance grants to the states. The provisions were that the money be used to expand care for the 2.4 million placed already on the State Welfare rolls, to set up new programs to cover other aged, who might not qualify for general relief, but who might under special circumstances need help to pay their medical bills. Fundamentally, it is to give help to those who need help.

This bill was enacted in September 1960, and was attacked during the Presidential campaign that followed. The contention was that it did not go far enough—presumably was too conservative. The bill is broad in its provisions and its implementation is to be carried out under laws and directives administered by the individual states. The only limitation on the scope is that only those persons over 65 years of age who are not on Old Age Assistance are eligible.

Competent legal authorities have stated that in the field of Federal legislation there has seldom been a medical program tailored so exactly to the specifications suggested by organized medicine, local definition, and determination of eligibility, local choice of scope of benefits, and method of payments, and minimal Federal control. The advocates of socialized medicine will attack this bill and will advocate legislation of the Forand type. They will insist upon the Social Security tax and compulsory Social Security eligibility.

In arguing the relative merits and demerits of the two types of legislation remember that:

1. Under this law: Medical care is authorized for any person over 65 who needs help.

   Under the Forand bill: Care would be provided regardless of need—but only to 60% of the persons over age 65.

2. Under this law: Any type of care can be provided as decided by the state.

   Under the Forand bill: Only hospitalization, nursing home care, and some surgical care would be authorized.

3. Under this law: All fees are determined by local regulation.

   Under the Forand Bill: Fees would be promulgated by the Department of Health, Education and Welfare.

4. Under this law: The program sup-

plements voluntary health insurance.

Under the Forand bill: The program would compete with and stifle voluntary health insurance.

The Forand type of legislation was defeated in part through the efforts of organized medicine in September 1960. In the coming forensic contest we will have all the strength that we were able to muster then. In addition, the Democrats have lost 23 votes in the House. The fear of radical legislation in times of economic crisis will further a coalition of conservative elements. Additional arguments will be that the bill as enacted should be tried before a radical and socialistic departure is made from established practice.

The ultimate operation and success of the Kerr-Mills bill will be in the hands of the medical profession. Recognizing that the AMA has endorsed the bill, that more than any other it places help within the reach of those who need it most, and that it provides freedom of choice and local autonomy which we consider essential, the physician can with good heart undertake to do his part in seeing that the bill works.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

THE URGE TO SUE *

Growth of Malpractice Suits Has Put U. S. Doctors on the Defensive; Last Year's Cases Totaled Estimated $50 Million in Costs and Settlements.

More and more U. S. doctors are learning a bitter lesson: medicine is an inexact science, but there is little room for error as far as the courts are concerned. According to the American Medical Association, one in every seven physicians has been sued for giving treatment that a court may decide is contrary to accepted rules and injurious to the patient. Last year alone, 6,000 doctors were sued. Jury awards in malpractice suits have nearly trebled since 1950; lawyers' fees, courts costs, damages and out-of-court settlements in last year's cases totaled an estimated $50 million.

The result, Time says in a survey of the growing trend, is that almost 95% of all U. S. doctors carry malpractice insurance and many feel like sitting pigeons for unscrupulous patients and lawyers. Some doctors now dodge giving aid in Good Samaritan cases, which form a small but rich field for malpractice suits. Such emergency accident cases demand haste, often catch the doctor ill-equipped and ill-prepared.

Doctors vs. Lawyers

Mr. C. Joseph Stetler, Secretary of the Council of Legislative Activities A.M.A., attributes the urge to sue on exaggerated stories of new drugs, methods of treatment and "miracle" surgery, which "lead the public to believe that anything less than a perfect result is per se evidence of negligence." Some doctors insist that only 10% of all malpractice suits have any merit; the rest, they claim, are nothing more than "legalized blackmail."

Not so, say trial attorneys like San Francisco's Melvin M. Belli, who estimates that he has filed more than 1,000 malpractice suits (75 actually went to trial), relieved doctors and insurance companies of $8,000,000 in judgements and out-of-court settlements. Belli says that "most of the verdicts are justified, because judges and the law have put so many safeguards around doctors." He points out that in some states (e.g. Arizona, New Mexico) malpractice suits are "very rare indeed," because doctors flatly refuse to give testimony that would show medical negligence by their colleagues. Doctors' self-imposed silence has prompted two states—Massachusetts and Nevada—to permit use of standard textbooks in court to establish prudent practice.

Lost Sponges, Mismatched Blood

A.M.A. studies show that two-thirds of malpractice claims originate from in-hospital accidents. Sponges occasionally are sewn into patients' stomachs (a group of California hospitals

* Reprinted from News Release from *Time, The Weekly Newsmagazine.*

recently reported a run on "lost sponges"—18 in a single year). Obstetricians have been known to deliver one baby and quit, leaving its twin behind. Surgeons have removed a kidney only to discover that one is all the patient had. A more common cause: transfusions of mismatched blood, which kill about 3,000 patients a year in the U. S., injure thousands more. In such cases, where human error is clearly responsible, courts hold that the injured patient need not produce expert testimony to prove the physician's negligence.

Doctors also have been sued for failing to spell out risks. Earlier this year, after a Kansas woman suffered burns from radio-active cobalt therapy for her breast cancer, her physician was judged negligent—even though the treatment was skillfully performed—simply because he failed to tell her there was risk of radiation burn and therefore, said the court, had not obtained her "informed consent" to the treatment.

St. Peter Says Go Back

Out of fear of malpractice suits, many doctors have become careful, and even ultra-cautious, about the kind of medicine they practice. The results: higher costs and—in certain cases—poorer medical care. Some anesthetists now shy away from medically advisable spinals, because the public imagines them to be dangerous and thus is prone to sue if something goes wrong. Many general practitioners no longer will dispense telephone advice or permit prescription refills. Doctors dislike these dodges, but they feel in real pocketbook danger. A joke going the rounds among physicians said that St. Peter greeted a man at the gates of heaven saying: "You weren't due here until 1965. Go back and sue your doctor for malpractice."

NATIONAL ELECTION

We lost—but did we? This election proved that the physicians of this country are a dedicated group and are, without doubt a powerful group of citizens politically. The results of this election conclusively and forcefully bring to our attention that it is urgently necessary for the physicians of this country to immediately create an organization for political education and action in our state and the nation supported by groups of physicians and their allies, outside of organized medicine but supporting the philosophy of organized medicine. A desire to continue to practice free enterprise medicine with individual dignity and preserving the American way of life with free choice of physician and patient without federal interference should be our goal.

Only if we are well organized and united in our efforts to fight for these principles can we succeed in preventing our profession from being socialized and check the rapid advance so evident to total socialization of our country. We should not, now, abandon our position and cause, but be encouraged to fight more strongly than ever to prevent the Democratic platform from becoming the law of the land.

We must contact our Senators and Congressmen by wire, letter and in person, enlisting their support in opposing any socialistic medical legislation. Our responsibility has never been so great as now.

The following is quoted from Dr. Elmer Hess, a past president of the American Medical Association—"Keep your organization together—hold meetings—watch the legislation at the National level and help keep America free—We can do it —if we will. This is not the time to quit but to rededicate our lives to the preservation of our way of life. Don't forget that socialism and communism are not 32nd cousins, they are first cousins."

This will be a hard fight, but with your cooperation in a united effort, right and fairness will prevail and we will again be successful in defeatng all Forand type legislaton.

Now is the time to start workng—don't wait until our legislators go back to Washington. Have your patients, friends and the members of our allied professions cooperate with us in our fight for survival. "He, who hesitates is lost."

MEDICAL WARNING TAGS

We are pleased to call to your attention that the Orleans Parish Medical Society has approved the use of stainless steel Medical Warning Tags to be worn by an individual patient subject to some disease which might necessitate urgent and immediate medical attention. This is more fully explained in the following letter received by the Secretary-Treasurer on October 8, 1960 from Mr. Kuhlmann, Executive Secretary of the Orleans Parish Medical Society.

Dr. C. Grenes Cole, Secretary
Louisiana State Medical Society
New Orleans, Louisiana

Dear Doctor Cole:

RE: Medical Warning Tags

As mentioned to you a few days ago, the Orleans Parish Medical Society approved the use of stainless steel Medical Warning Tags by patients with certain clinical conditions. Perhaps you will find this story merits mentioning in your next news letter.

This Tag, which may be worn around the neck or as a bracelet, is designed to identify the wearer as a special medical case, and flashes an immediate unmistakable warning to the person who aids a shock victim. Furthermore such a tag is not affected by water, soap, detergent or perspiration, and will not bend, break, fade or become discolored.

Not infrequently in medical practice and hospital work patients are first seen when they are unconscious. Under these circumstances considerable time may be required to make a correct diagnosis or to eliminate many conditions that might have caused the actual trouble. The Warning Tag would enable physicians and others to save much valuable time in starting proper medical care and will thereby save many lives that might otherwise have been lost.

The Society's Public Health Committee, which recommended the use of this "Tag", was of the opinion that it is a much better means of identification than the card carried by special medical case patients, because most police officers are prohibited from examining immediately the contents of handbags or billfolds, and sometimes precious life-saving minutes are lost before an identification card is found and examined; also a child in shock presents another problem, since purses and billfolds are not always carried.

Yours sincerely,

Signed: A. J. KUHLMANN

CHAIRMEN OF SCIENTIFIC SECTIONS

1961 Annual Meeting
Louisiana State Medical Society

Dr. Stanley Cohen, New Orleans—Allergy

Dr. John Adriani, New Orleans—Anesthesiology

Dr. Najeeb Klam, Monroe—Bacteriology and Pathology

Dr. Joseph A. Sabatier, Jr., Baton Rouge—Chest

Dr. C. Barrett Kennedy, New Orleans—Dermatology

Dr. Douglas L. Gordon, Baton Rouge—Diabetes

Dr. Gerald F. Joseph, Baton Rouge—Ear, Nose and Throat

Dr. James H. Allen, New Orleans—Eye

Dr. Jules Myron Davidson, New Orleans—Gastroenterology

Dr. Joseph Wm. Crookshank, Lake Charles—General Practice

Dr. Earl Conway Smith, New Orleans—Gynecology

Dr. James E. Knighton, Shreveport—Heart

Dr. Adolph A. Flores, Jr., New Orleans—Medicine

Dr. W. S. Wilkinson, Shreveport—Neuropsychiatry

Dr. Robert E. Rougelot, New Orleans—Obstetrics

Dr. T. E. Banks, Alexandria—Orthopedics

Dr. Conway S. Magee, Lake Charles—Pediatrics

Dr. John M. Bruce, New Orleans—Public Health

Dr. Wm. R. Hardy, Jr., New Orleans—Radiology

Dr. William H. Heath, Alexandria—Surgery

Dr. Wilbur G. Wells, Alexandria—Urology

A.M.A. DUES INCREASE

All members should, without fail, carefully read the article on raising of dues in the December 12 issue of A.M.A. News. Dues are to be increased $10.00 on January 1, 1962 and $10.00 additional on January 1, 1963.

The reasons for the necessity of increasing the dues are well presented in the above mentioned article, and we sincerely hope our members will see the wisdom of the action of the House of Delegates, and will cooperate fully with these plans in order that the association can go forward with the inauguration of new programs and expansion of existing programs.

Members will continue to receive the A.M.A. Journal, Todays Health, A.M.A. News, and the specialty journal of their choice, published by the Association.

ADDITIONAL COMMITTEE CHAIRMEN

Louisiana State Medical Society

(Since publication of list in August 1960 issue)

ALCOHOLISM
Dr. D. H. Texada, Jr., Alexandria

ARRANGEMENTS FOR 1961 ANNUAL MEETING
Dr. Eugene H. Countiss, New Orleans

BUDGET AND FINANCE
Dr. Emmett L. Irwin, New Orleans

DEPARTMENT OF PUBLIC WELFARE
Dr. H. H. Hardy, Jr., Alexandria

DOMICILE
Dr. L. Sidney Charbonnet, Jr., New Orleans

HISTORIAN
Dr. P. H. Jones, New Orleans

HOSPITALS
Dr. Walter Moss, Lake Charles

JOURNAL
Dr. C. M. Horton, Franklin (Vice-Chairman)

LIAISON—PUBLIC POLICY AND LEGISLATION AND CONGRESSIONAL COMMITTEES
Dr. Arthur D. Long, Baton Rouge and Dr. B. O. Morrison, New Orleans—Co-Chairmen

LIAISON—LOUISIANA STATE BAR ASSOCIATION
Dr. Daniel M. Kingsley, Alexandria

MEDICAL AND HOSPITAL SERVICES IN RE INSURANCE CONTRACTS
Dr. A. J. Ochsner, Alexandria

REVISION OF CHARTER, CONSTITUTION AND BY-LAWS
Dr. A. V. Friedrichs, New Orleans

SCIENTIFIC WORK
Dr. C. Grenes Cole, New Orleans

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

SPRING MEETING—WEST VIRGINIA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

The West Virginia Academy of Ophthalmology and Otolaryngology will hold its Fourteenth Annual Spring Meeting, April 6, 7, 8, 1961 at the Greenbrier Hotel, White Sulphur Springs, West Virginia with the following guest speakers in attendance:

1. Harvey E. Thorpe, M. D., Pittsburgh, Pennsylvania:
   1. Recent Developments and Personal Experiences in Cataract Surgery
   2. Clinical Gonioscopy
2. John J. Shea, M. D., Memphis, Tennessee:
   1. Fenestration of the Oval Window After Five Years
   2. Vein Graft Tympanoplasty
3. F. Johnson Putney, M. D., Philadelphia, Pennsylvania:
   1. Laryngeal Keratosis: A Clinico-Pathologic Problem
   2. Neck Dissection in Cancer of the Larynx
4. Irving H. Leopold, M. D., Philadelphia, Pennsylvania will give two lectures in which the titles will be announced later.

Also Mr. Philip Salvatori of Obrig Laboratories will present an entire afternoon session devoted to "Contact Lens".

The new officers of the Academy will be installed at that time and they are as follows:

President—John A. B. Holt, M. D., Charleston, West Virginia

President - elect—Albert C. Esposito, M. D., Huntington, West Virginia

Vice President—William K. Marple, M. D., Huntington, West Virginia

Secretary-Treasurer—Worthy W. McKinney, M. D., Beckley, West Virginia

Director—James T. Spencer, M. D., Charleston, West Virginia

Director—Alan Fawcett, M. D., Wheeling, West Virginia

There will be a registration fee of $25.00.

For any additional information, please contact the secretary, Dr. Worthy W. McKinney, 109 East Main Street, Beckley, West Virginia.

IVth INTERNATIONAL CONGRESS OF ALLERGOLOGY

The IVth International Congress of Allergology will be held at the Hotel Commodore, New York City, October 15-20, 1961. It is anticipated that this will be a large and interesting meeting for all of those concerned with allergic diseases and related fields of immunology. At the main meetings there will be simultaneous translations of all papers in English, French, German and Spanish. Prominent physicians and scientists, from all parts of the world, have been invited to take part in conferences, symposia and panel discussions. Among the subjects to be presented are:

Genetics in allergy; Acquired tolerance; Transplantation immunity; Drug hypersensitivity; Contact allergy; General mechanisms in allergy; Mechanisms of antibody fixation; Delayed hypersensitivity; Auto immune processes; Steroid therapy; New methods in allergy, etc.

All physicians registering are invited to present communications which will be grouped in various sections according to subject matter. An active program of entertainment is being arranged with several receptions, one at the Metropolitan Museum of Art, and a Banquet. For the ladies, there will be a program of luncheons, fashion shows, and visits to the United Nations and other points of interest.

The registration fee for regular members will be $45.00, for wives $20.00. These registration fees will include the printed proceedings and admission to the receptions. The banquet will be

charged separately. As the attendance is expected to be large, it is requested that persons interested obtain additional information from Dr. William B. Sherman, 60 East 58th Street, New York 22, New York.

SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY SOUTHERN MEDICAL ASSOCIATION

At the meeting of the Southern Medical Association in St. Louis, Missouri on October 31 to November 3, 1960, the following officers were elected for the Section on Ophthalmology and Otolaryngology for the coming year:

Chairman, Dr. Miles L. Lewis, Jr., 1539 Delachaise Street, New Orleans, Louisiana.

Chairman-elect, Dr. Samuel D. McPherson, Jr., 1110 West Main Street, Durham, North Carolina.

Vice Chairman, Dr. Claude D. Winborn, 3707 Gaston Avenue, Dallas, Texas.

Secretary, Dr. Albert C. Esposito, First Huntington National Bank Building, Huntington, West Virginia.

The next meeting of the Section will be held in Dallas, Texas in November, 1961. Those interested in participating should write to the secretary of the Section, Dr. Albert C Esposito.

A.M.A. STANDS FAST ON POLICY RELATING TO GRADUATES OF FOREIGN MEDICAL SCHOOLS

The American Medical Association has announced that it is standing fast on its policy relating to grauates of foreign medical schools, but offered a proposed educational program that will ease the plight of nearly 2,500 foreign physicians who have failed to pass qualifying examinations and face deportation.

The A.M.A. said it is standing by its policy because it believes graduates of foreign medical schools should meet the same minimum standards of education as graduates of U. S. medical schools as nearly as can be measured. These standards have been set up to insure patients in hospitals proper medical care.

The American Medical Association pointed out that American students graduating from foreign medical schools are required to pass this same examination before being permitted to continue their medical education in the United States as interns or residents which inevitably involve patient care.

Dr. Leland S. McKittrick, Boston, chairman of the A.M.A. Council on Medical Education and Hospitals, said that through mutual agreement with the State Department in Washington, the American Medical Association, the American Hospital Association, and the Association of American Medical Colleges, hospitals will be urged to develop a special educational program for this group of foreign graduates who failed. The program, however, will not involve patient care. The proposal calls for the program to be carried out until June 30, 1961. This will permit the U. S. Immigration and Naturalization Service to extend the educational exchange visas of these foreign doctors and enable them to take the Educational Council for Foreign Medical Graduates examination next April 4.

Details of the educatioanl program, Dr. McKittrick said, will be worked out by each individual hospital in order to conform to the specific educational needs of the foreign doctors. Under such a proposal there will be no sudden forced exodus of those who have failed previous examinations. After December 31, hospitals face loss of approval of their intern and residency programs if the programs include foreign medical graduates who are not certified by ECFMG.

In the past, foreign physicians were granted visas to continue their education under the Smidt-Mundt Act. The U. S. Immigration and Naturalization Service issued the visas, working closely with the State Department in its educational and exchange program for foreign students. To qualify a foreign graduate had to be enrolled in an educational program approved by the State Department. The intern and residency program, whose educational standards were established by the A.M.A., was accepted by the State Department as meeting the requirements set forth in the educational exchange program authorized by Congress.

Hereafter, foreign doctors, who seek training as interns and residents in this country under the exchange program, must pass examinations in their own countries before coming to the United States. Oly then will they be allowed to apply for a five-year exchange-visitor visa.

More than 70 per cent of the foreign physicians who took the last ECFMG examination in September passed it. The total represented 5,306 out of 7,303. Dr. McKittrick said that 1,405 foreign doctors took the test in 66 centers outside the United States, and 926 passed it.

"With hospitals facing loss of approval of their teaching programs after the December 31 deadline," Dr. McKittrick said, "the immediate problem from the standpoint of everybody concerned is with the group of 2,481 foreign doctors who failed their examinations and face theoretical deportation."

Dr. McKittrick said that "there must be a balance of two basic concerns—for the American patient and for the foreign graduate."

"We must recognize the right of every patient in an American hospital to a quality of care which can be given only if every physician—regardless of origin—is fully qualified. But we must be equally interested in the impact of America on the foreign physician coming to these shores."

Dr. McKittrick said that the high standards in intern and residency programs maintained by the A.M.A. serve only one purpose: to insure the highest quality of medical care to all hospital patients."

Dr. McKittrick emphasized, therefore, that foreign graduates who have failed to pass the examinations conducted by the ECFMG will NOT be permitted to continue with their intern and residency program after December 31, but we have been assured by the State Department that they will be permitted to remain in the United States until June 30, 1961, providing they are enrolled in an acceptable new program developed by the hospital. This program, Dr. McKittrick said, will have nothing to do with direct patient care, but will provide an opportunity for the foreign physician to continue his education and better prepare him for future examinations.

Dr. McKittrick said that hospitals which continue to accept foreign graduates, who failed in their ECFMG examinations, in their intern and residency program will run the risk of having their program disapproved.

AMERICAN BOARD OF OBSTETRICS AND GYNECOOGY

The Part 1 Examinations (written) will be held in various cities of the United States, Canada, and military centers outside the Continental United States on Friday, January 13, 1961.

Reopened Candidates will be required to submit Case Reports for review thirty days after notification of eligibility.

Scheduled Part 1 Candidates are also required to submit their twenty (20) Case Abstracts in order to complete the Part 1 Examination.

Current Bulletins outlining present requirements may be obtained by writing to the Executive Secretary's office. Robert L. Faulkner, M. D., American Board of Obstetrics and Gynecology, 2105 Adelbert Road, Cleveland 6, Ohio.

AID REPACES AX FOR DRINKING EMPLOYEE

American industry is giving aid instead of the ax to its alcoholic employes.

An article in the December Today's Health, published by the American Medical Association, said business firms have awakened to the staggering cost and innumerable problems related to the harboring of "hidden" alcoholics, or firing them without attempting rehabilitation.

Many companies have established alcoholism programs to seek out the problem drinkers in their ranks and offer them treatment.

"Not too many years ago all companies treated the excessive drinker as a moral problem and thought it better left alone," the article said.

"Industry's new 'soft' approach to the alcoholic promises more than just a break for the man unable to control his taste for alcohol. It means the alarming growth of alcoholism in industry is coming under direct attack in the office and in the factory where the early stages of the problem drinker may be detected through close observation of his behavior pattern."

There are various estimates of the number of alcoholics in industry, the article said. It is commonly accepted that there are more than three million with one estimate as high as five million.

Alcoholism costs industry more than 500 million dollars annually in hospitalization and known expenses and an estimated 10 billion dollars more each year in indirect costs resulting from absenteeism, inefficiency, and accidents.

It is not easy to detect an alcoholic in industry, the article pointed out. Research indicates that it takes 10 to 15 years of increasingly steady drinking for a person to become completely addicted to alcohol and many efficient workers do not exhibit signs of deterioration for a long time. In addition, fellow workers usually cover up for the drinker and rarely tip off supervisors about the problem.

The company programs emphasize that alcoholism is a treatable disease, recovery is possible for all alcoholics, and the complete cooperation of the patient, his family, employer, and fellow worker is necessary.

BEACHHEAD ESTABLISHED IN BATTLE AGAINST TRAFFIC ACCIDENTS

A beachhead has been established in the battle against traffic accidents—a scientific study to determine if reckless driving is a disease.

The study to determine whether there is some correlation between physical shortcomings and driving performance was described in an article in the December Today's Health, published by the American Medical Association.

"Nothing of such scope has ever been attempted before," the article said. "The criteria established by such research may some day prove to be a sort of 'vaccine' against reckless driving.

"This will be the first big step toward further refinements of all physical criteria for determining qualification for a driver's license. Such criteria would be needed by state motor vehicle authorities to invoke sterner control measures and, if challenged, to produce scientifically valid proof that would stand up in court."

From 20,000 to 25,000 Connecticut motorists will undergo a voluntary screening in a specially built six-room mobile clinic to determine if there is a relationship between their physical, physiological, or psychological conditions and their driving records, with the emphasis on physical factors. Each will be tested for hearing and vision deficiencies, diabetes, anemia, and heart and lung pathology.

Later, depending on the findings of the initial

studies and the availability of appropriations, the investigation will be extended to physiological factors, such as the effect of drugs on drivers, and psychological factors, such as the effect of drivers' emotional attitudes on their driving.

Medicine, public and private research, and the government have joined in a modest initial assault on the "epidemic of deaths on the nation's highways," the article said.

The U. S. Public Health Service is conducting the experiment in the field which probably will take 18 months. The follow-up task of keeping tabs on the records of the drivers who have been examined will be done by the State Motor Vehicle Department and will take at least five years.

FIFTH ANNUAL CONSECUTIVE CASE CONFERENCE TUBERCULOSIS AND RESPIRATORY DISEASE

Physicians of Alabama, Mississippi and Louisiana were invited to participate in the Fifth Annual Consecutive Case Conference on Tuberculosis and Respiratory Diseases, held at the Gulf Hotel in Gulfport, Miss., January 13-14.

Sponsored jointly by the Louisiana Tuberculosis Association and the tuberculosis associations of Mississipppi and Alabama, the conference opened with registration at 12:30 P.M. on Friday, January 13.

Conference moderators were J. Maxwell Chamberlain, M.D., New York, N. Y.; and Max Michaels, M.D., Jacksonville, Fla.

William Leon, M.D., New Orleans, chaired the opening session which began at 1:15 P.M. on Friday. "Ten Consecutive Cases of Thoracic Trauma Seen In Private Practice" was discussed by Richard A. Dillard, M.D., Medical College of Alabama. Dr. Dillard was followed by Myra D. Tyler, M.D., University Medical School, Jackson, Miss., who spoke on "Ten Consecutive Cases of Lung Abscess".

The Friday session ended with a social hour at 6:00 P.M.

The second and final day of the meeting was opened on Saturday, January 14, with William Boggan, M.D. chairing a morning session at 9:00 A.M.

"Ten Consecutive Cases Erroneously Diagnosed Tuberculosis Prior To Sanatorium Admission" was presented by Arthur Viehman, M.D., Jefferson Tuberculosis Sanatorium, Birmingham, Ala.

Following were Drs. Hans Weill and Morton M. Ziskind, New Orleans, La., speaking on "Ten Consecutive Cases of Sarcoidosis from a Chest Clinic With Three Year Follow-up."

The Conferees enjoyed a luncheon at 12:15, and the final and afternoon session opened at 1:30 P.M. with Charles R. Kessler, M.D., Birmingham, Ala. chairing.

"Ten Cases of Unusual Spontaneous Pneumothorax" was presented by Drs. Howard A. Buechner, John Bickers and Morton Brown, New Orleans, La.

The annual consecutive case conferences are arranged and presented by the Trudeau and Thoracic Societies of the three states involved. These societies are the medical sections of the state tuberculosis associations.

LOUISIANA ASSOCIATION OF MEDICAL ASSISTANTS

The executive committee of LAMA will hold a meeting on January 21 and 22, 1961, at the Bentley Hotel, in Alexandria, to discuss plans for the First Annual Meeting in Monroe on March 10, 11, and 12, 1961, and other matters.

It is hoped that those medical assistants who are interested in becoming a member of the American Association of Medical Assistants will contact the committee (Mrs. Julia Dudden, membership chairman) at the Bentley Hotel, in order that a plan may be made for forming a chapter in Alexandria.

BOOK REVIEWS

Hand Book of Medical Treatment; (Seventh Edition) Edited by Milton Chatton, Sheldon Morgan and Henry Brainerd, Lange Medical Publications, 1960. 569 p. $3.50.

Within the last decade the handbook format has become increasingly popular. There are those to whom this represents a disturbing trend. It has been recognized, also, that to keep well informed in pharmacologic research is practically impossible for the physician in practice. His attempts to acquire knowledge and understanding of clinical applications may meet frustration with the ephemeral efficacy of many drugs. The expressed purpose of this handbook is to provide a readily accessible collection of therapeutic procedures for patient care. It is in essence an elaborated outline.

Within this framework, a rather impressive volume of information has been compiled. It is assumed that the patient has been evaluated and a diagnosis established. Classical findings in certain diseases are listed under the heading

"Diagnosis", but surely are intended to serve only as reminders of the usual findings in a specific clinical entity. A large proportion of space is given to drug therapy, including toxicity and side effects. Dosage schedules are provided. A number of tables are incorporated into the text. Approximately two hundred fifty topics are offered in the space of five hundred pages, and the code numbers are given for clinical entities. General and specific therapeutic measures are listed.

No effort has been made to adapt therapeusis to individual patients. That which is proposed is the usually expected management of the average uncomplicated case. Intrinsic defects in such a plan of management and the errors resulting from possible over-interpretation are obvious. It should be voted that, if the limitations are recognized, the physician in general practice with a large volume of patients may find valuable assistance in situations requiring immediate therapy. This time is made available to devise a comprehensive plan of patient care. For the purpose indicated, the book is considered adequate.

RUTH STERLING HOFFMAN, M. D.

Master Your Tensions and Enjoy Living Again; by George S. Stevenson and Harry Milt, Prentice Hall, 1959, pp. 241. Price $4.95.

This is another in the long series of "How To—" books, whose aim, to help people lead happier lives, is certainly commendable, but whose accomplishment is frequently considerably less so. The present volume, however, differs in that practical suggestions and recognizable examples are offered the reader by the authors, as aids in handling the tensions of everyday living. The volume is primarily intended for the layman, but the physician will find useful material for discussion with the patient whose emotional tension is contributing to the development of symptoms which bring him to the doctor's office.

THEODORE F. TREUTING, M. D.

Nine Months' Reading; A Medical Guide for Pregnant Women; by Robert W .Hall, M. D., Doubleday & Company, Inc., Garden City, New York, 1960, pp. 191. Price $2.95.

Robert E. Hall has shown great care in the collection of headings to present for women in pregnancy. Particularly significant are such chapters as the selection of the doctor, the explanation of partnerships and their function as well as the preparation of the patient for her first visit. This will fill a need in those practices in which the persons are dealing with a group of intelligent patients. There is no disagreement with the ideals which are propounded in regard to the minimal amount of laboratory and supportive therapy advocated. The high standards recommended will serve to flay the vagrant omissions in care rendered by the general practitioner in some rural areas. No doubt exists but that this text enjoys little popularity other than in the hands of patients cared for by the obstetrical specialist.

The advice to the patient is excellent and beautifully written. However, whereas Dr. Hall expresses himself well in the paragraph under the heading X-ray Hazards by not appearing too positive, in the chapter on German Measles he takes the liberty to quote the odds of a deformity developing in the infant in various months of pregnancy, which statements may be open to challenge. When the Australian report was published in 1941 there was general fear that deformities would occur 100% in the infants of women who sustained German measles during pregnancy. As experience and reports are developed these are rapidly dropping. If this particular paragraph is to be kept up to date, Dr. Hall may find it necessary to revise this portion of the text at yearly intervals to refrain from being incorrect.

Because of the well chosen words and subjects the book appears complete with obstetrical information as well as up to date developments in both equipment and practice. It should be recommended as excitingly new.

If in the entire volume there was nothing but the very excellent opinions expressed regarding Natural Childbirth and Breast Feeding its possession would be worthwhile.

No text will take the place of the rapport that can be established between a pregnant woman and her obstetrician, however, for completeness of care and understanding this type of effort is one that should be welcomed wherever good obstetrical care is desired and practiced.

ISADORE DYER, M. D.

Christopher's Textbook of Surgery; by Frederick Christopher, Seventh Edition, Philadelphia, Pennsylvania, W. B. Saunders, 1960, pp. 1551. Price $17.00.

This is the seventh edition of what has come to be regarded as a standard textbook of surgery. Together with its companion volume, *Christopher's Minor Surgery*, it was for many years the principal reference work in undergraduate teaching of surgery.

As its predecessor began, so the new edition begins with a delightful and informative chapter devoted to the history of surgery and, unlike the previous edition, ends with a provocative new section entitled "Surgical Judgment." In between, the major subjects of surgical importance are considered, often in detail and with surprising clarity.

Although this is a new edition, there are only a few important changes that merit comment.

For instance, the chapter formerly entitled "Surgical Bacteriology, Chemotherapy and Antibiotic Therapy" is now entitled "Infections," and indeed it is little more than that. In an attempt to bring this section up to date, most of the material on surgical bacteriology has been eliminated entirely. The discussion of the use of zinc peroxide has been deleted, and there is only casual mention of the sulfonamides. On the other hand, the various antibiotics, their properties and surgical use are thoroughly covered. In the opinion of this reviewer, the chapter concerned with surgical bacteriology in the Sixth Edition is of more value to the medical student than the revised chapter because it emphasized the proven basic principles regarding infection rather than details of antibiotic therapy which change frequently.

As in the previous edition, a chapter is devoted to basic principles of technique in surgical care. Material of this type is usually included in surgical texts designed for the use of medical students, but probably serves no useful purpose. It deals with no subject thoroughly, and the techniques that are described are of such a nature that each surgeon has his own particular method of executing them. It would appear that this sort of information is best learned on the wards and in the emergency rooms of the hospital where a student serves his clerkship; in fact, there is a course devoted to just this sort of thing in most medical schools. The illustrations in this chapter are not helpful and are, in at least one instance, incorrect. Thus, in a drawing concerned with venous "cut-down", the cannula is being inserted into a vein just above the lateral malleus. This is obviously an error since in the text the author states that usually the greater saphenous vein at the medial malleus is employed for this purpose.

The chapters devoted to preoperative and postoperative care, endocrinology and metabolism in surgical care, and anesthesiology are excellent, although they have been altered but little from the preceding edition. The section concerned with the eyes is unique in that it describes in detail the operation of enucleation. The author implies that everyone should be familiar with this procedure since he never knows when it will have to be performed, and perhaps this is true.

The chapter devoted to conditions of the mouth, jaws, tongue, and salivary glands is somewhat inconsistent with the content of most of the other chapters in that operations for cleft lip and palate and radical neck dissection are described in detail with the aid of excellent illustrations. One wonders whether such a presentation is not too advanced for the medical student and, at the same time, whether it would fill the need of the surgical resident who is going to perform these operations.

The chapter on the heart and pericardium has been brought up to date by addition of a section devoted to extracorporeal circulation and open intracardiac repair of defects. The bibliography at the end of each chapter has been revised, and articles appearing as late as September 1958 are included.

Considered altogether, this is an excellent textbook of surgery, but so was the previous edition. In view of the limited revisions and additions which distinguish this from the Sixth Edition, one wonders if a new one was really needed!

OSCAR CREECH, JR., M. D.

Antithrombotic Therapy; by Paul W. Boyles, Grune & Stratton, 1959. 131 p. $5.00.

A short, concise monograph which is perhaps over-simplified because of its brevity, but should prove a useful guide to the understanding of the clinical problems of intravascular thrombosis.

The discussion includes an outline of the mechanism of blood coagulation, a discussion of the nature of clotting tests, consideration of antithrombotic reactions and the clinical use of antithrombotic agents. There is a brief, and relatively uncritical outline of thrombolytic therapy, and a final discussion of the technics of useful laboratory tests.

PAUL T. DECAMP, M. D.

Sexual Impotence in the Male; by Leonard Paul Wershule, M. D., Springfield, Illinois, Charles C Thomas, 1959, pp. 107, $5.75.

In this book the author has achieved a remarkably concise, and yet lucid, survey of the often subtle problem of impotence. Of particular interest is the impression of the undisputable importance of impotence to all mankind and medicine with which the reader is left.

In only 107 pages the author gives an adequate condensation, 174 references, of the voluminous amount of literature on impotence. The book lacks statistical analyses and hard fast facts which are understandable with such a subject. Rather, this volume is a very simply written, easily readable, sensible discussion of a multifaceted problem.

The classification of impotence into organic, quasi-organic and functional causes is simple, but complete and logical. For these reasons this classification is a definite improvement over previous ones. No attempt is made at subclassification but rather each broad heading is followed by a clear, sometimes novel-like, discussion.

Organic causes are listed and each is briefly examined.

Genital psychosomatic causes, quasi-organic, are given a separate heading. This category is useful because of its reality and its aid in bridging the gap between the other two categories.

The far more frequent functional causes of impotence are emphasized and discussed in a common sense manner. Case histories are related to support the discussion. The author suggests that when the cause of impotence has been determined as being functional the patient should not necessarily be labeled a "psychiatric case". He points out quite distinctly and demonstrates how a good percentage of patients with functional impotence are often readily aided or cured by simple psychological and/or social advice.

This short volume can be recommended to medical students and all physicians who are called upon to treat impotence because it provides the essentials for understanding and aiding such unfortunate patients.

DR. HUGH T. BEACHAM

Diagnosis and Treatment of Tumors of the Chest, edited by David M. Spain, M. D. 371 pages published 1960, Grune and Stratton, New York, $14.75.

This attractive volume was prepared under the sponsorship of the American College of Chest Physicians. It presents a comprehensive review of the current situation in the diagnosis and treatment of bronchogenic carcinoma and other less frequent tumors involving the thorax. As in all cooperative projects there is unevenness of presentation, and some of the chapters are much more stimulating and informative than others. Although 25 different contributors were involved in the production of this work, there is remarkably little repetition, and adequate cross references to the different essays are present throughout the volume. Among the outstanding contributions are those on the roentgen diagnosis of bronchogenic carcinoma by Leo G. Rigler and the discussion of pulmonary hamartoma by Coleman B. Rabin. Julian Johnson's discussion of choice of operation for bronchogenic carcinoma sets down clearly the criteria for pneumonectomy and lobectomy. Louisiana is well represented by Alton Ochsner, Sr. and Alton Ochsner, Jr. who write a very complete account of the tumors of the thoracic wall and diaphragm. A number of typographical errors are present throughout the volume but will undoubtedly be eliminated in subsequent editions. Certain chapters of the book would profit by illustrations; they would be particularly helpful in those sections which summarize briefly numerous tumors, some of which have fairly characteristic X-ray appearances. The book can be recommended as an excellent reference for students of medicine, general practitioners, surgeons and internists. It has successfully achieved its purpose of summarizing recent knowledge of the diagnosis and treatment of tumors of the chest and should go into further editions as new advances are made.

MORTON ZISKIND, M. D.

Diseases of the Skin; by James Marshall, M. D., London. Published by: E & S Livingstone, Ltd., Edinburgh and London 1960, Williams & Wilkins Company, Baltimore, Maryland, 944 p., Price, $15.00 (exclusive U. S. agents for this book).

In the preface of this excellent text on Dermatology Dr. Marshall states that he has tried to provide a book that undergraduates and general practitioners may use for reference, and one that will serve as introductory reading for postgraduate students.

It is my belief that not only has Dr. Marshall accomplished his stated intention, but has also written a text which I have found very useful as a reference book for a practicing Dermatologist. Dr. Marshall has followed the orthodox classification of diseases of the skin used by most authors of textbooks on Dermatology. This adds value to his text, in my opinion. His Table of Contents is especially well organized and reflects the author's ability in handling the subject. Many textbooks on Dermatology fail because of the complexity of their Table of Contents. His clear descriptions of diseases of the skin are excellent, and all of his discussions are enhanced by well selected illustrations.

It is my belief that this textbook will become a worthwhile addition to Dermatologic literature.

C. BARRETT KENNEDY, M. D.

PUBLICATIONS RECEIVED

Blood Diseases of Infancy and Childhood, by Carl H. Smith, M. D.

Doubleday & Co., Inc., Garden City, N. Y.: The Question of Fertility, by Georges Valensin, M. D.

Grune & Stratton, N. Y.: Clinical Cardiopulmonary Physiology, sponsored by the American College of Chest Physicians (2nd edit.)

Little, Brown & Co., Boston: Procedures in Vascular Surgery, by Richard Warren, M. D.

McGraw-Hill Book Company, Inc., N. Y.: Principles of Surgical Practice, by Emanuel Marcus, M. D., and Leo M. Zimmerman, M. D.

The C. V. Mosby Co., St. Louis: Resuscitation of the Newborn Infant; Principles and Practice, edited by Harold Abramson, M. D.

W. B. Saunders Co., Phila.: A System of Medical Hypnosis, by Ainslie Meares, M. D.; Progress in the Treatment of Fractures and Dislocations 1950-1960, by Thomas B. Quigley, M. D., and Henry Banks, M. D.

Charles C Thomas, Publisher, Springfield, Ill.: Cutaneous Manifestations of the Reticuloendothelial Granulomas, edited by Samuel M. Bluefarb, M. D.

The Williams & Wilkins Co., Balt.: Medicine for Nurses, by M. Toohey, M. D., with a chapter on Psychological Medicine, by Henry R. Rollin, M. D. (5th edit.).

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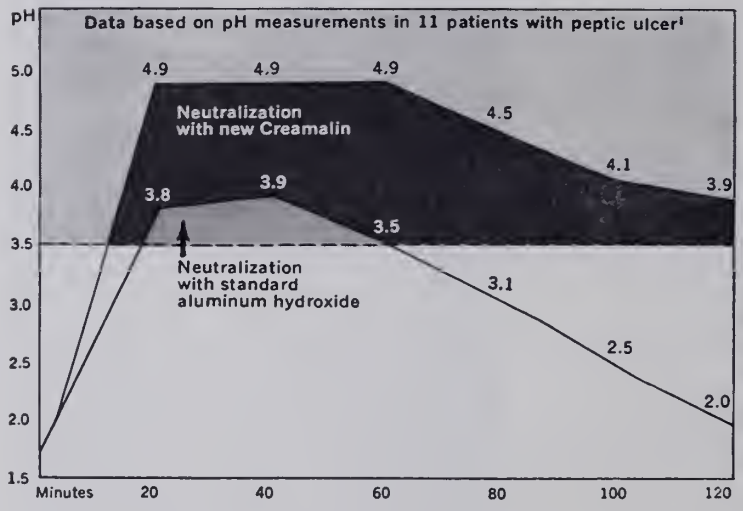
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1. Data in the files of the Department of Medical Research, Winthrop Laboratories. 2. Hinkel, E. T., Jr.; Fisher, M. P., and Tainter, M. L.: **J. Am. Pharm. A.** (Scient. Ed.) 48:384, July, 1959.

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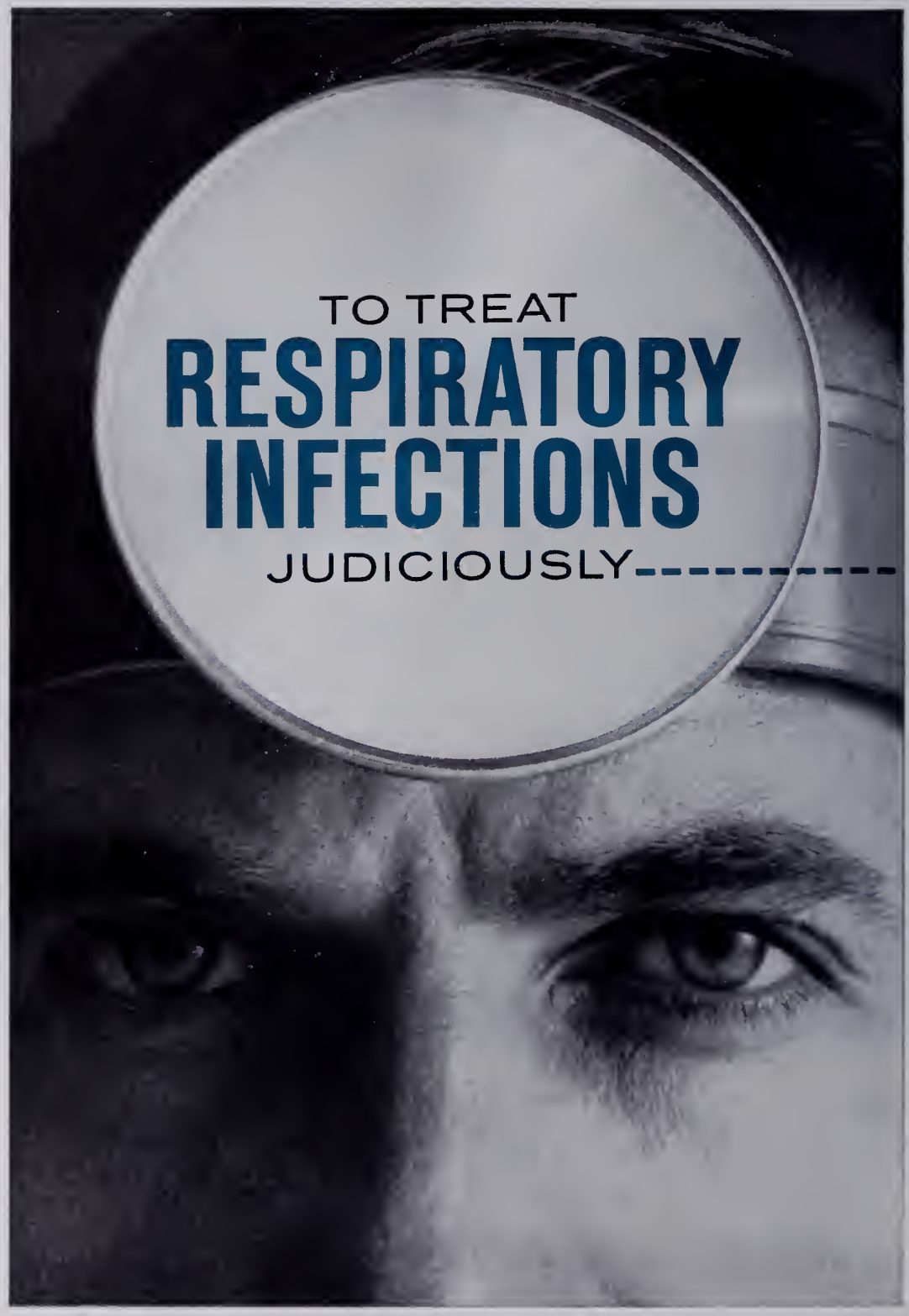
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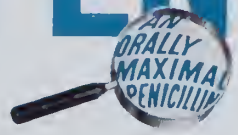
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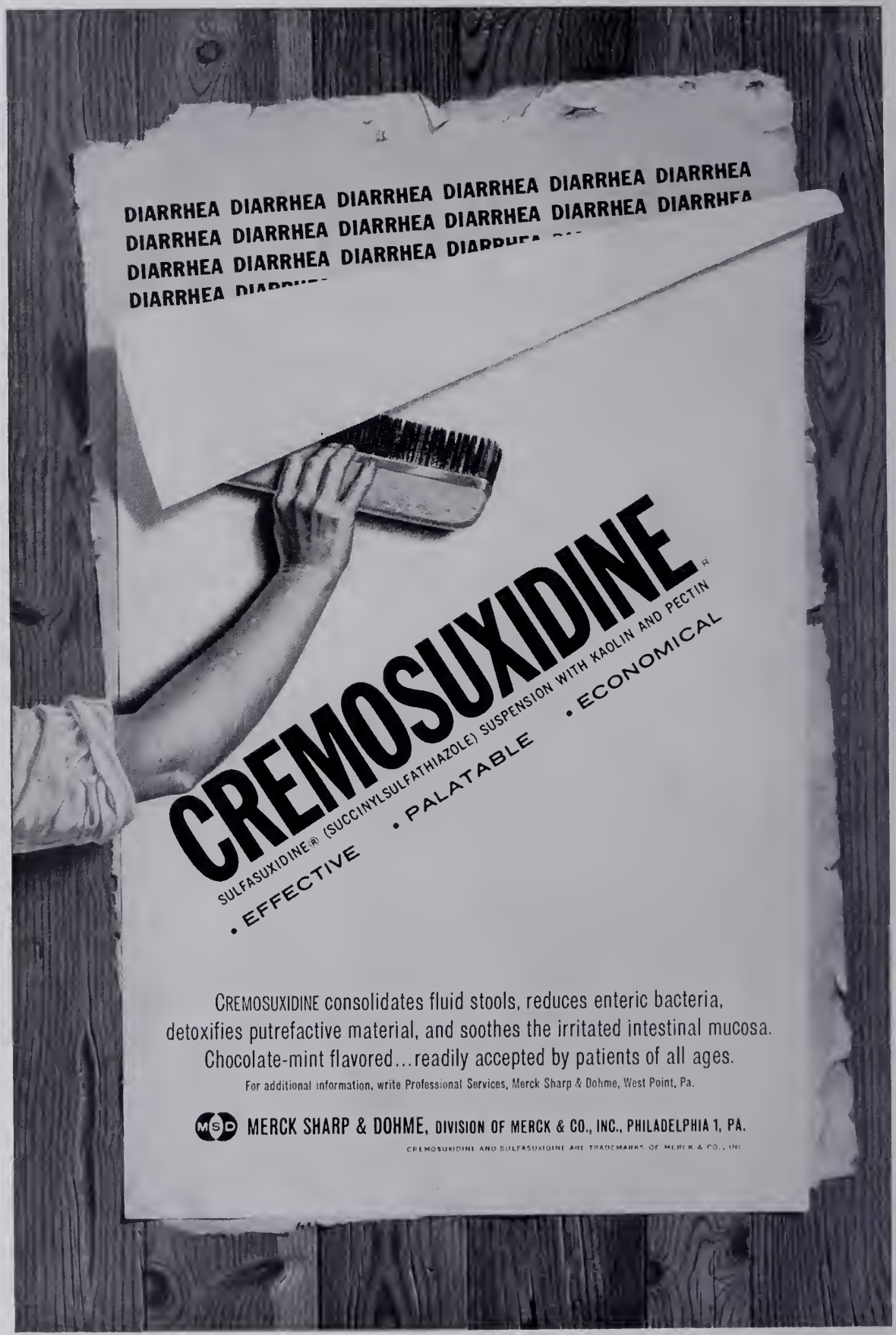


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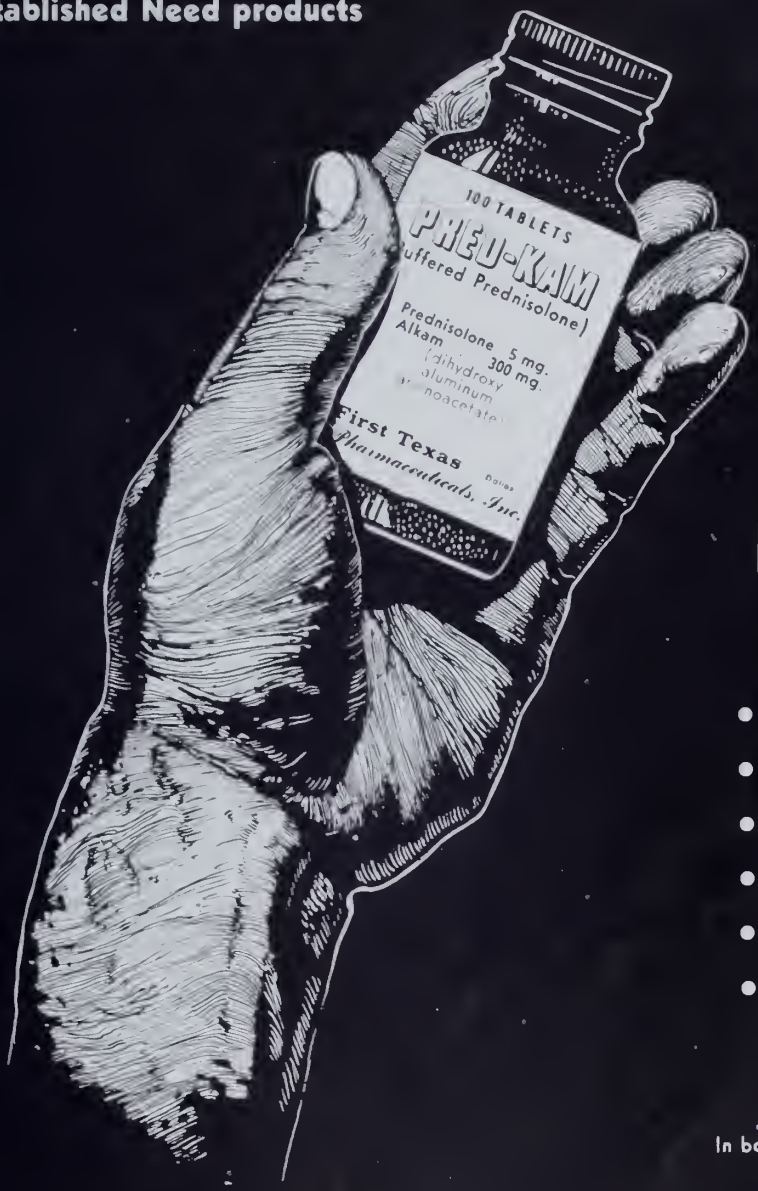
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Source: Harrison, T. R., *et al.*: Principles of Internal Medicine, ed. 3, New York, McGraw-Hill Book Co., 1958, p. 620.

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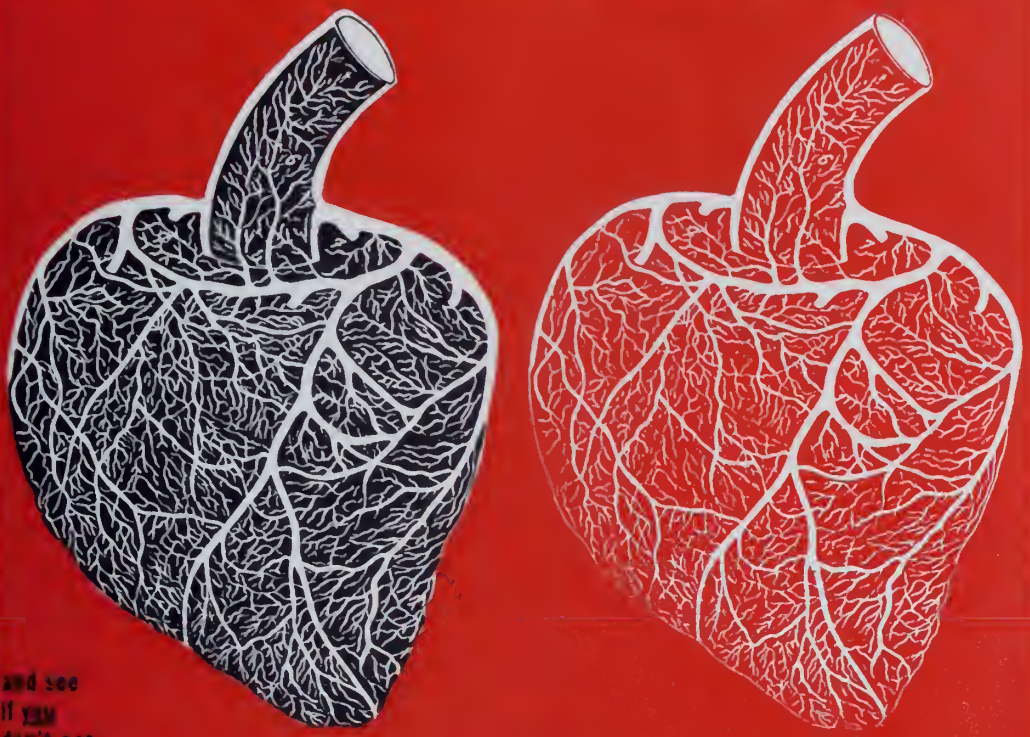


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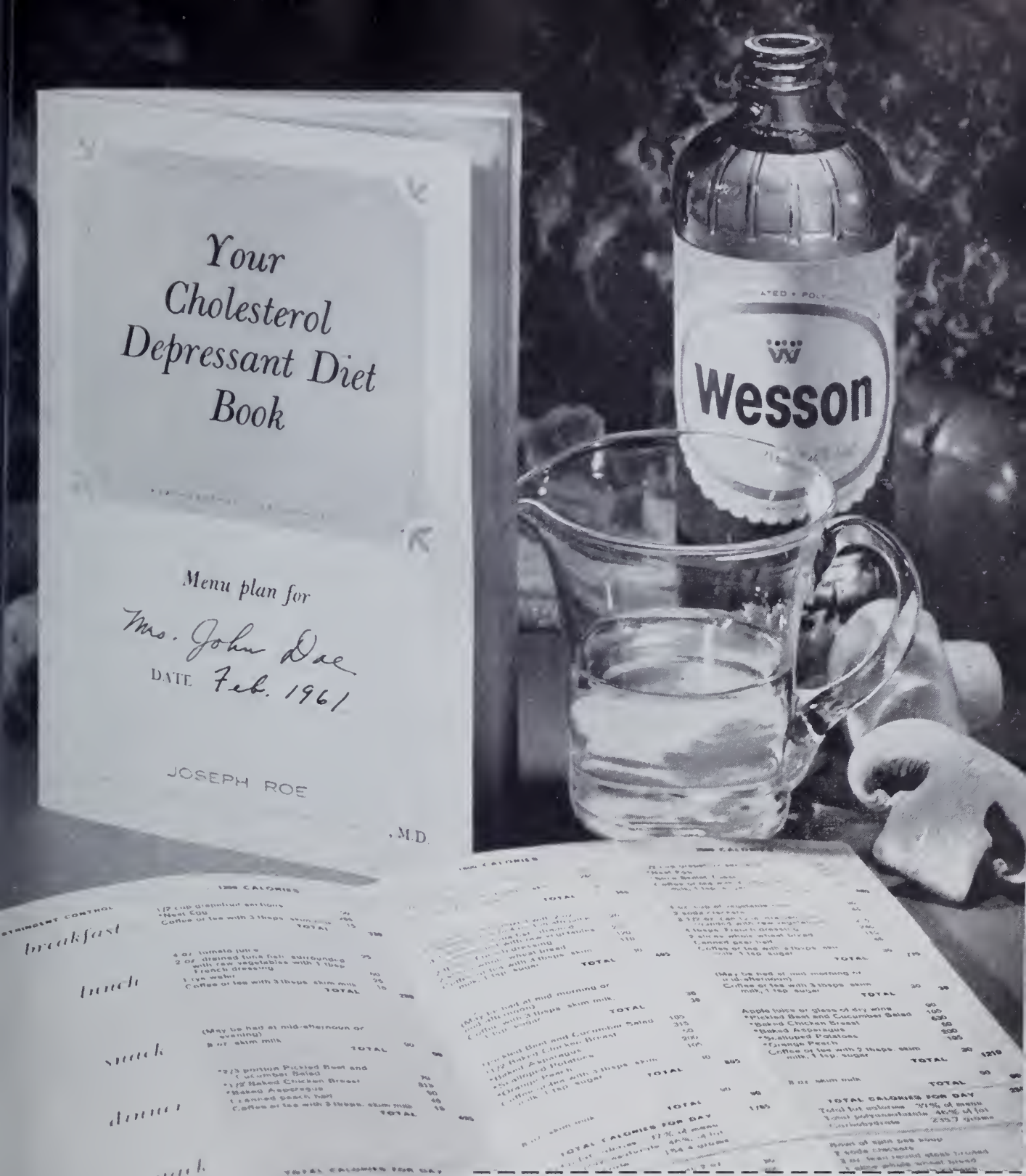
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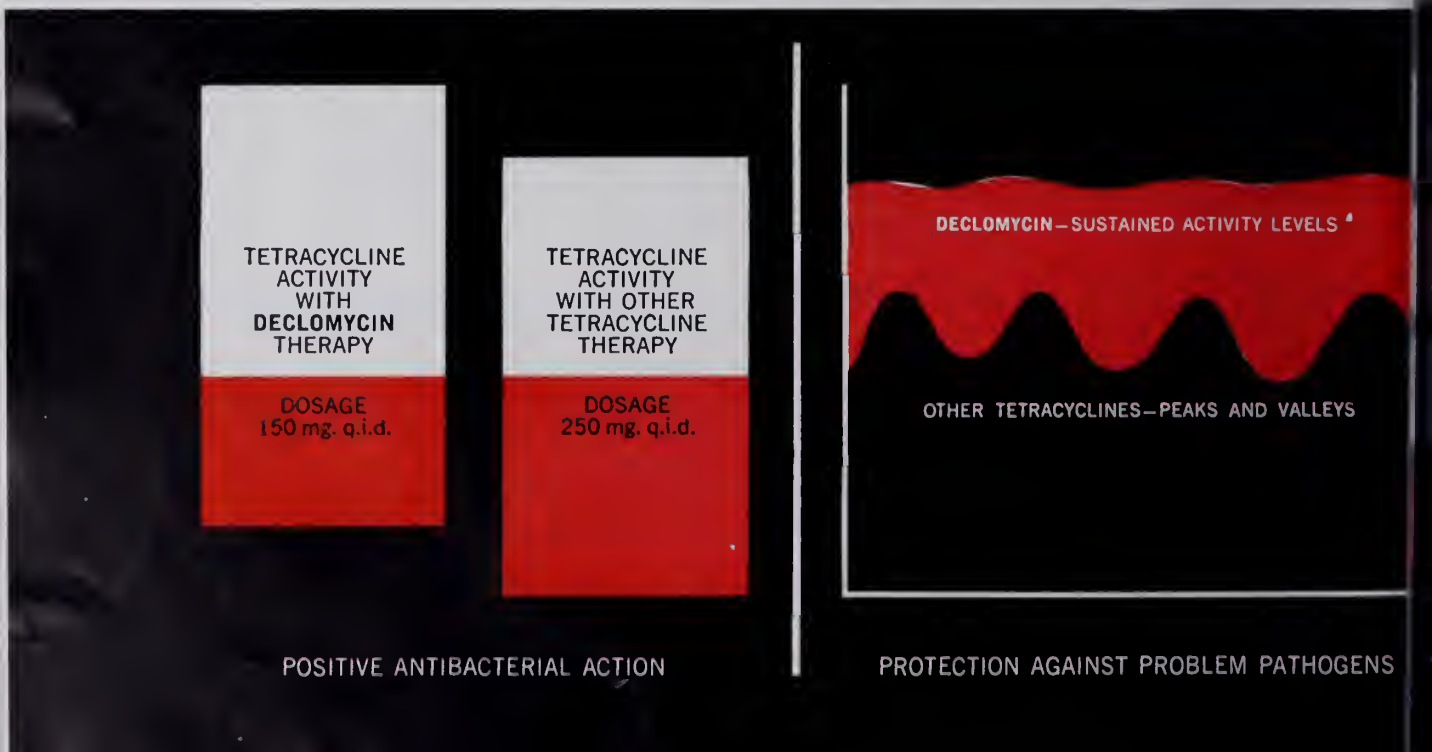
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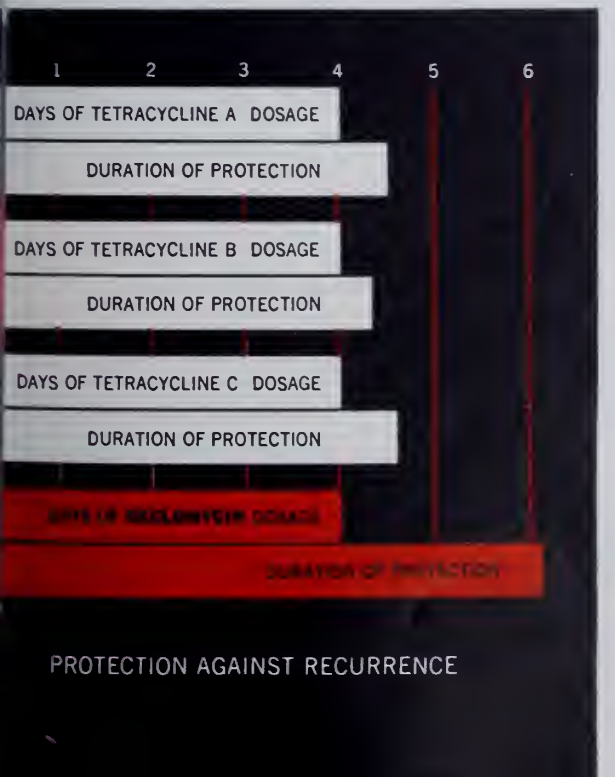


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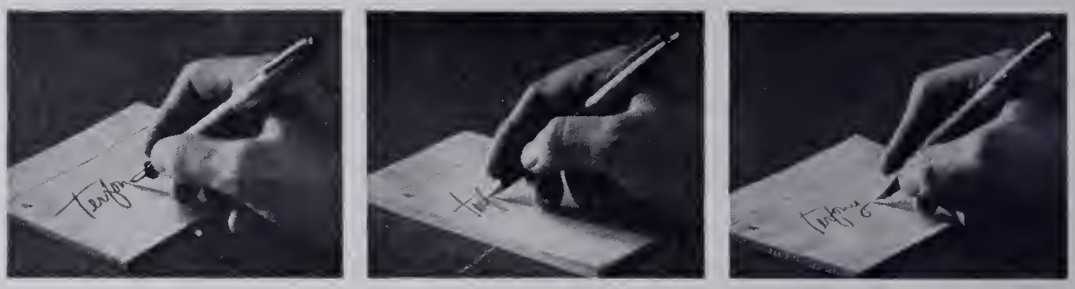
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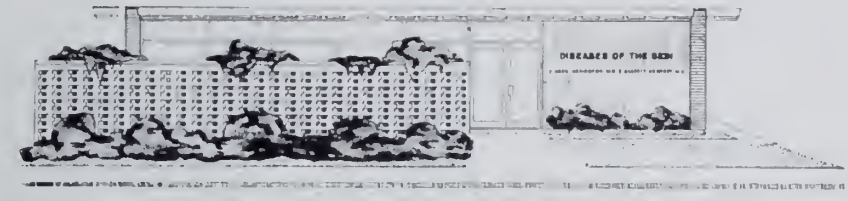
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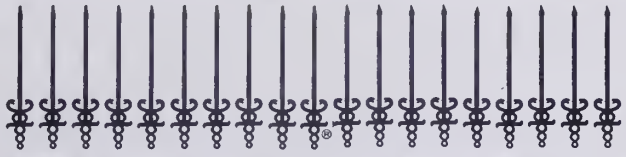
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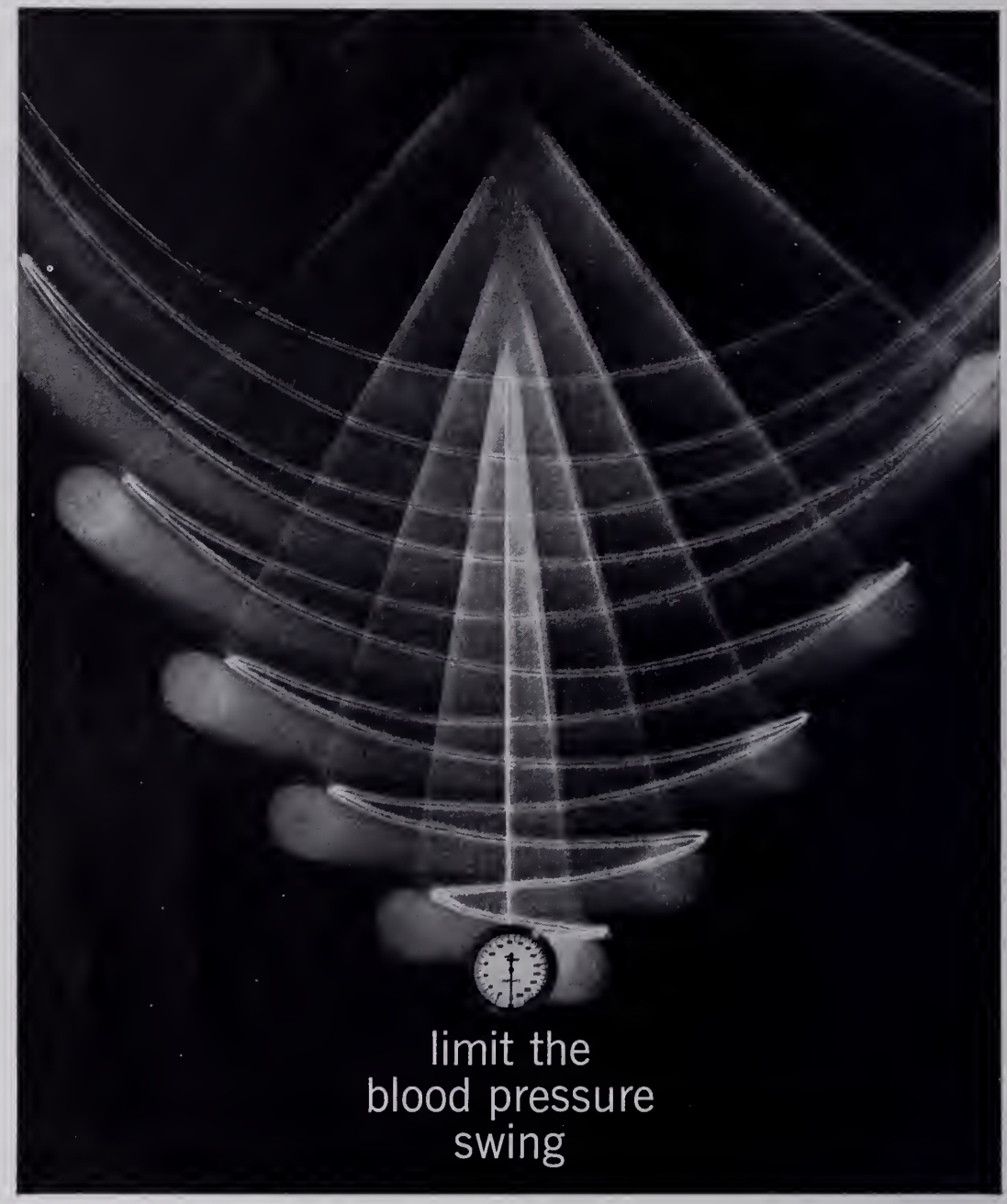
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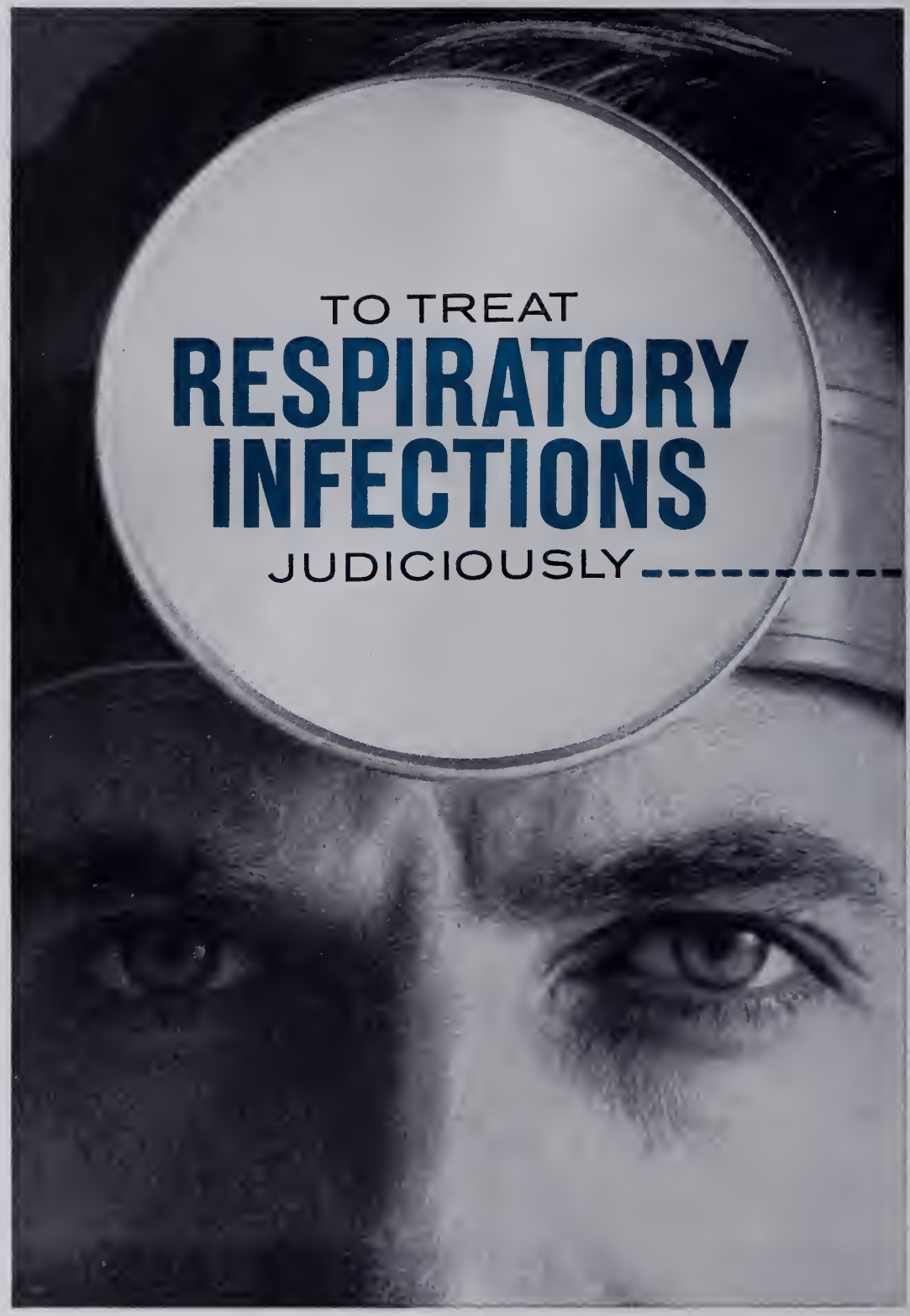
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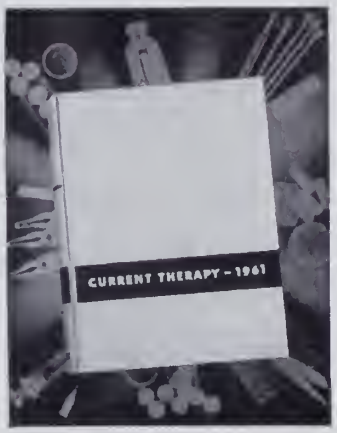
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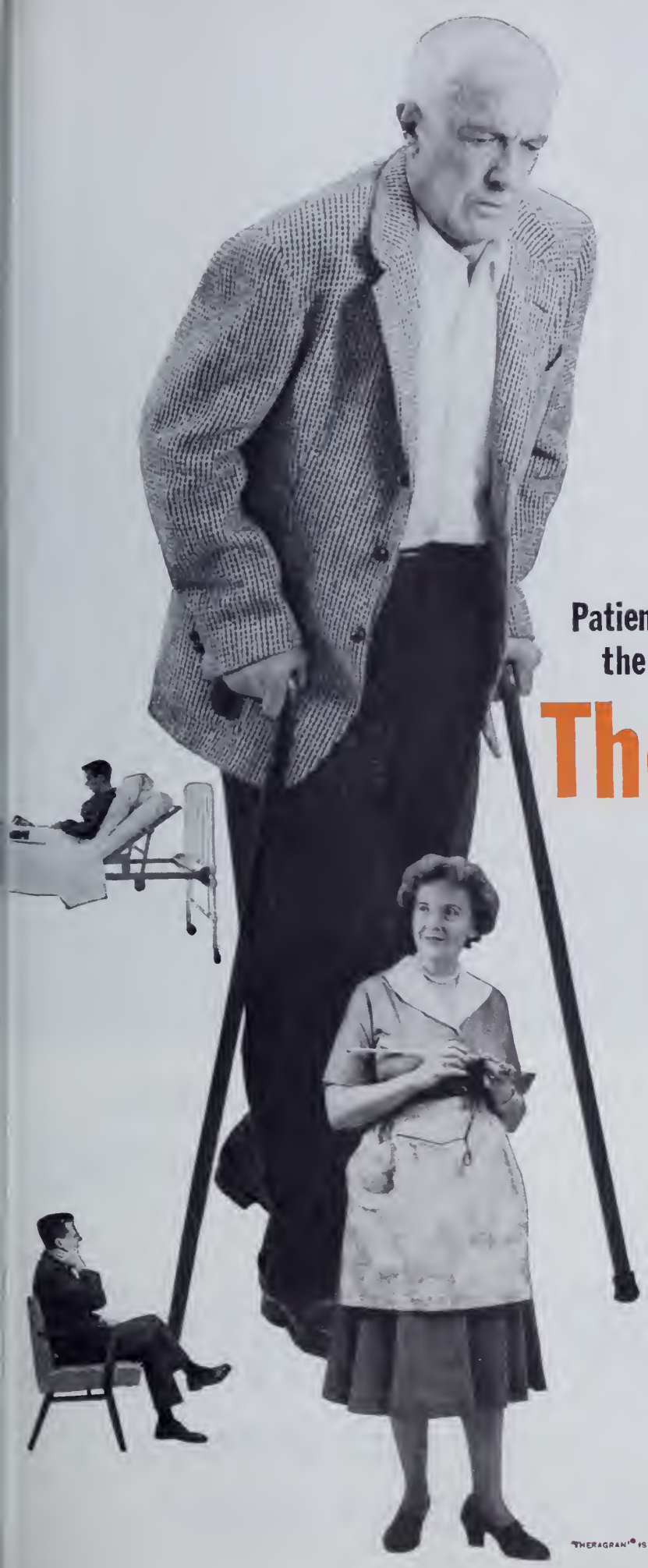
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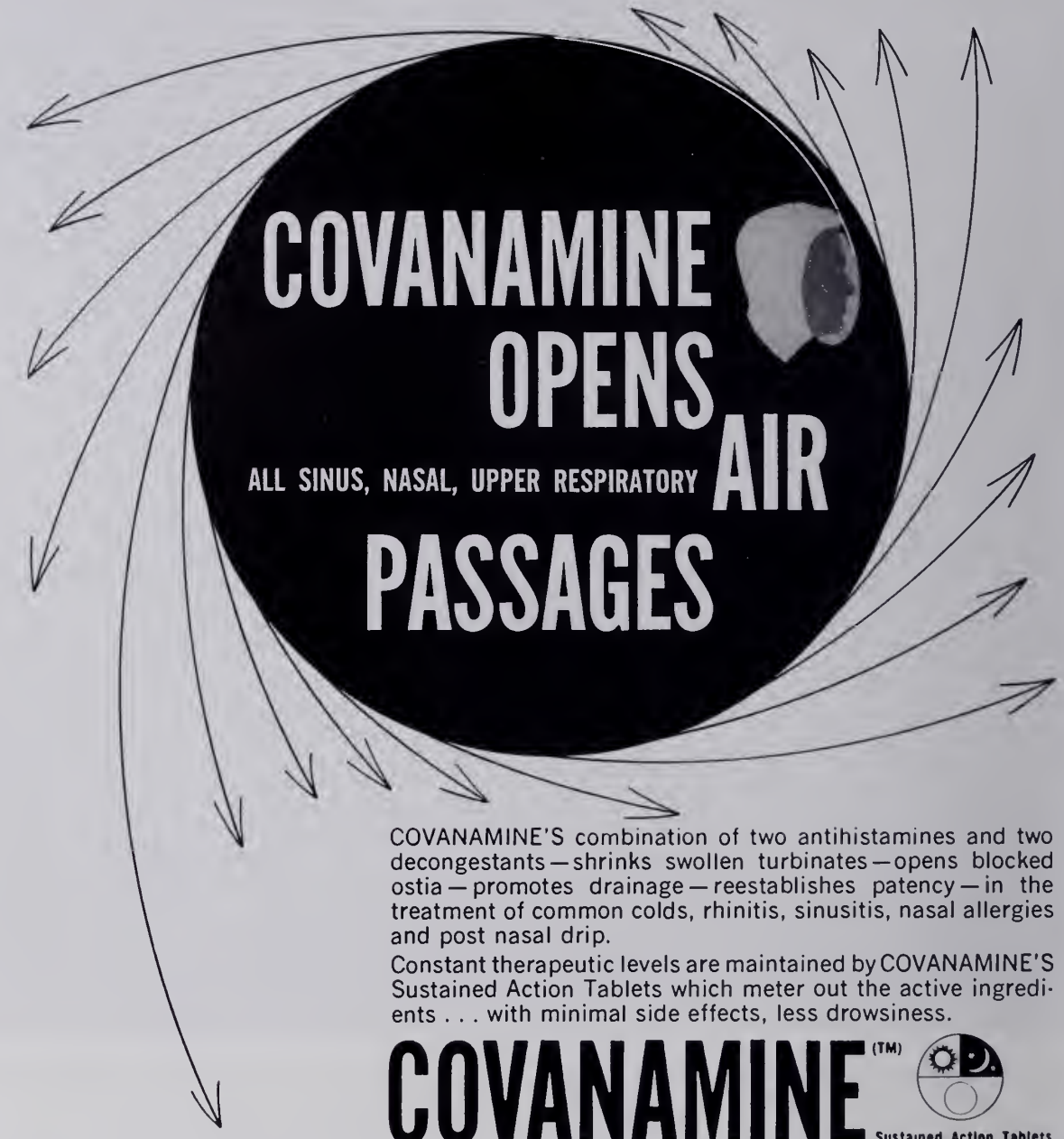
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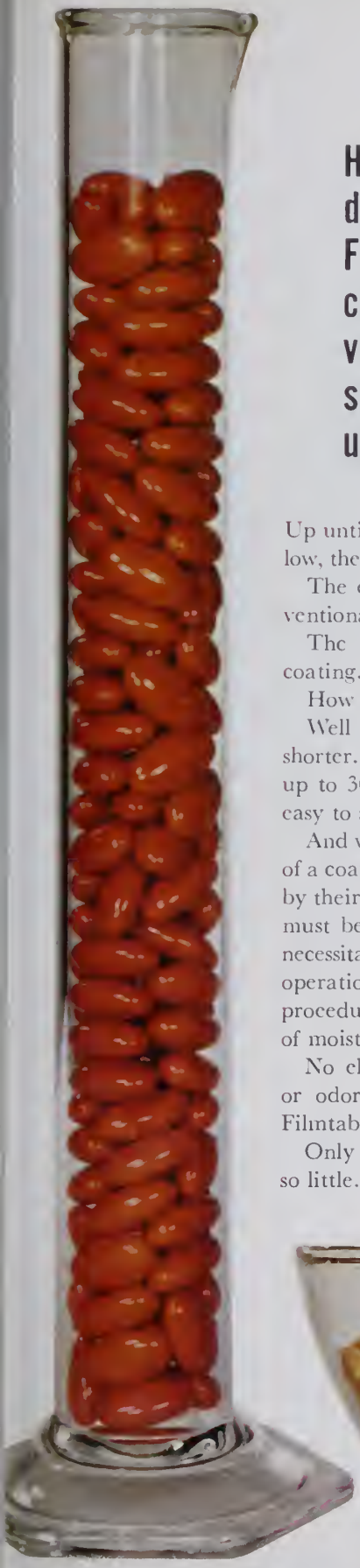
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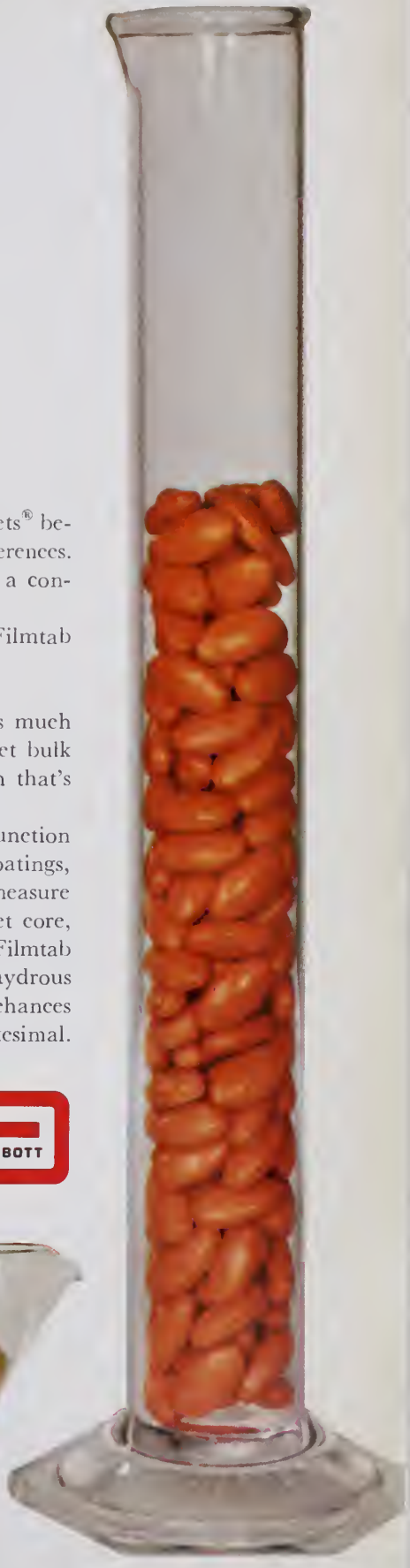
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Manganese (as sulfate)	1 mg.
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Cobalt (as sulfate)	0.1 mg.
Manganese (as sulfate)	1 mg.
Magnesium (as oxide)	5 mg.
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Molybdenum (as sodium molybdate)	0.2 mg.

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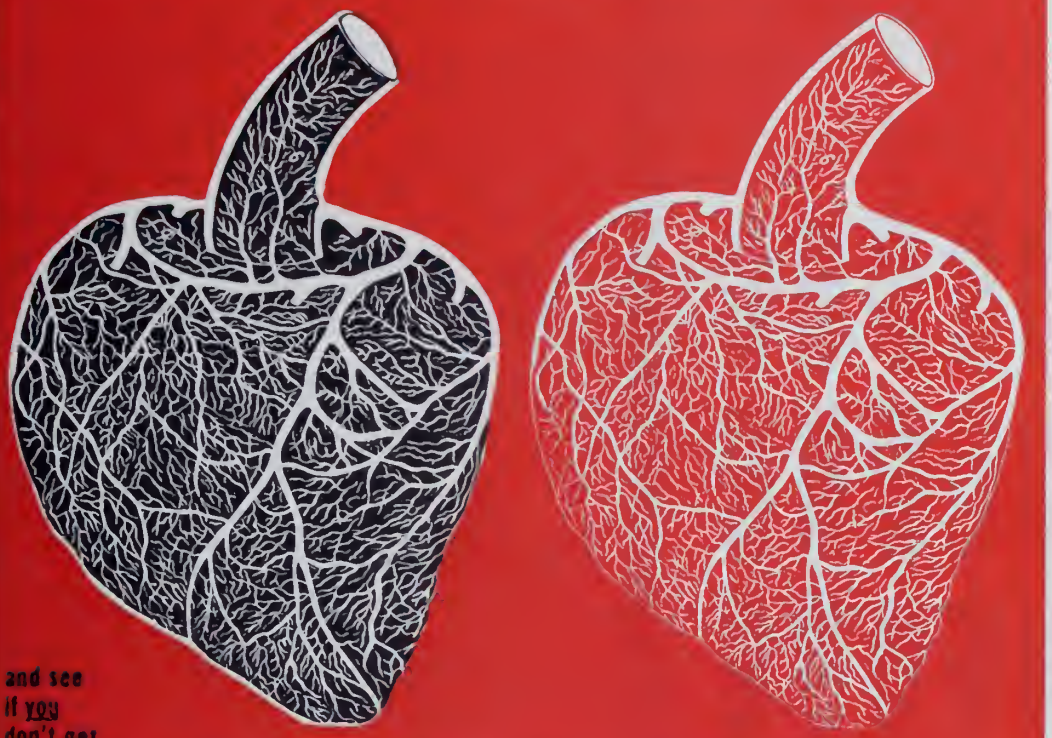
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Little Appreciated Facts and Occasional Oversights in Electrolyte Therapy*

• The author outlines the causes for subnormal concentrations of sodium, potassium, and magnesium, and gives suggestions for therapy.

M. BERT MYERS, M. D.†
New Orleans

THE widespread use of the flame photometer has brought more awareness of the problems of fluid and electrolyte therapy, but as with any clinical tool, it has also brought new difficulties into the management of patients. The results of the chemical determinations often do not seem to correlate with the clinical picture, and many times ill-advised therapy has been prescribed on the basis of serum concentration alone.

Low serum concentrations do not always signify ion deficits, and in this paper the main causes for subnormal concentrations will be outlined, with a few suggestions for therapy. This discussion will be limited to the three major cations of the body; sodium, potassium, and magnesium. In spite of the title of this paper, no statements made here can be called facts, but are only theories, as knowledge of the basic physiology of electrolytes is only in its infancy.

To begin with, a few elemental premises need to be reviewed. First, disorders of electrolytes are rarely diseases in themselves, but are only manifestations thereof, and consequently, the main therapy must be directed at the primary pathology. This may seem obvious; however, it is often misleading. Patients in diabetic acidosis may temporarily respond very satisfactorily to intravenous saline, but they need insulin to get well; the patient with small bowel obstruction primarily needs a surgeon and not a fluid therapist. Furthermore, disorders of electrolytes often cannot be fully corrected until the primary disease is eradicated. It is often fruitless to try to restore a patient into perfect balance before corrective surgery is performed; it is only necessary that a start be made in the right direction, and in acute situations, this can usually be done in a matter of hours, rather than days.

Very little will be mentioned about clinical patterns, but it is wise to remember that symptoms and signs vary more with

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the rapidity of change than with the absolute amount, and over a long period of time, large deficits are often well tolerated. Another salient point is that the normal route of electrolyte absorption is from the gastrointestinal tract. Consequently, as soon as possible, this route should be restored to full function and all parenteral fluids discontinued.

Sodium

The first ion that we will discuss is sodium. As can be seen in Figure 1, it

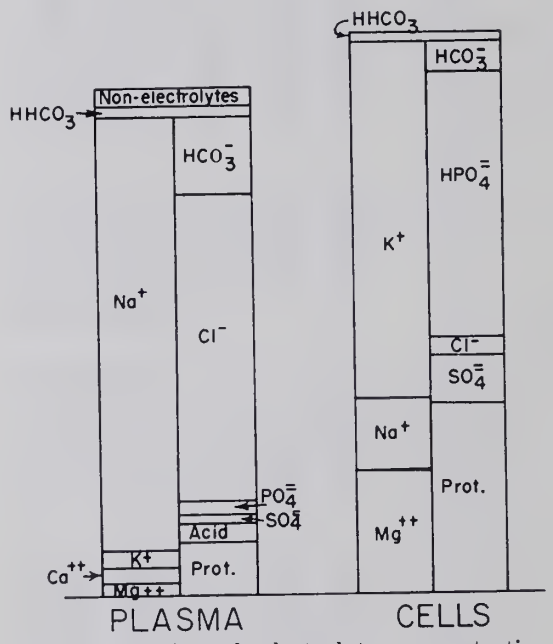


Figure 1.—Normal electrolyte concentration in plasma and cells (adapted from Bland).[5]

makes up almost all of the cation in the plasma and extracellular fluid. The tonicity or osmotic strength of the extracellular fluid is almost entirely dependent upon it. In other words, when the sodium is low the serum is hypotonic. Since all body fluids are in osmotic equilibrium, the extracellular and the intracellular fluids are also hypotonic.

There is one exception to this. If the nonelectrolytes are elevated, they can contribute to the osmotic strength of the plasma and in that case a low serum sodium does not represent a sodium deficit. These nonelectrolytes include glucose, lactate, pyruvate, bilirubin and fat, although ordinarily only a high serum fat will depress the serum sodium. Urea cannot be included as it is so freely diffusible that it does not affect osmotic relationships. Thus if the serum is lipemic, the sodium concentration may be low.[1] So we see the first condition in which a low serum sodium is not in itself pathologic and should not be treated.

But there are situations in which sodium therapy is needed. All body fluids contain sodium. When these fluids are a abnormally lost, sodium is lost, too. In general, these fluids are all secretions of the gastrointestinal tract and are all almost isotonic with plasma.[2] These intestinal juices can be lost from vomiting, diarrhea, fistulas, or occultly into the obstructed bowel. Since these solutions are isotonic, their loss is not initially reflected in any change of concentration of the serum sodium. This is analogous to an acute hemorrhage in which the hematocrit remains the same until dilution can occur. Thus, a patient can have a large and even life-threatening loss of fluid and still have normal serum electrolytes. In this early stage, therapy should be with isotonic solutions such as saline or Ringer's, or one of the newer solutions that attempt to correspond to the fluid lost.

In time, however, the body seeks to maintain the extracellular volume at the expense of concentration. This volume is necessary for proper cardiac action and blood flow. To do this, the kidneys conserve all available water and the electrolytes become diluted. Where does this water come from? The most common source is from administered water, either drunk by the patient or given parenterally as 5 per cent glucose in distilled water. Besides, there is another source of water, that is, from the catabolic oxidation of the body's own tissues. As this occurs, it produces electrolyte free water which dilutes the serum, rendering it hypotonic. The effect does not end here. Since water is freely permeable to cell membranes and the cells are then relatively hypertonic, water goes into the cells, causing them to swell, and thus the whole body becomes hypotonic. (Figure 2.) As will be dis-

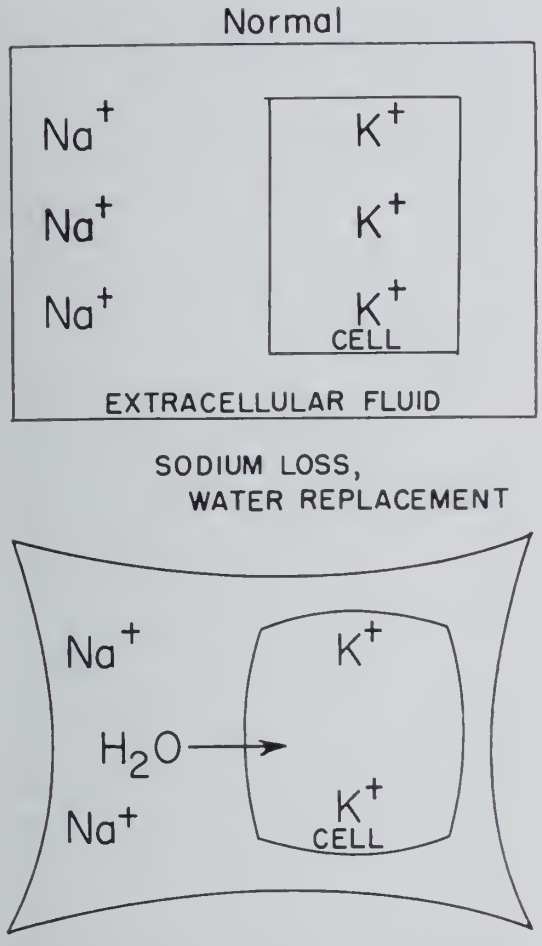


Figure 2.—Diagrammatic representation of total body water showing intra- and extracellular components. The lower figure shows cellular swelling and contracted extracellular volume occurring as a result of sodium loss and water replacement.

cussed later, potassium is also lost and this contributes to the hypotonicity.[3]

Therapy in this situation thus depends on two factors; the degree of hypotonicity, that is, the serum sodium; and the volume of the extracellular space, which may be normal, increased or markedly decreased, depending on the amount of water retained. The important thing is the amount of sodium which has actually been lost, the true sodium deficit, but present clinical methods cannot give us that figure.

Many authors advocate giving enough sodium to restore normal tonicity to the total body water, which is about 60 per cent of body weight. Their reasoning is as follows: When hypertonic sodium is given it raises the tonicity of the serum and the extracellular water. This draws water out of the cells and this water then serves to lower the concentration of sodium in the extracellular space. (Figure 3.)

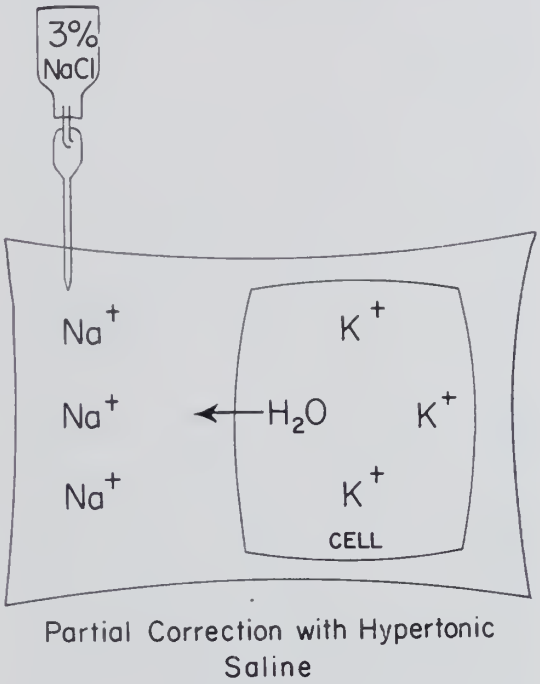


Figure 3.—As hypertonic saline is given intravenously, water is drawn from the cells to restore the extracellular volume toward normal.

By this reasoning a 60 kg. man with a serum sodium of 120 (instead of a normal of 140) would have a deficit of 20 mEq. per liter times 36 liters of body water, or 720 mEq. sodium. This is the amount of sodium in 1400 cc. of 3 per cent saline. But such large amounts are rarely needed. This reasoning would be correct if the total body water were constant, but it is not. As water is drawn out of the cells it expands the extracellular volume. As soon as this volume approaches normal, further water drawn from the cells is excreted in the urine.[3] Thus if the extracellular volume were normal to begin with, only about one-third as much sodium would be needed, and as stated before, there is as yet no practical method of measuring the extracellular volume. In therapy then, the answer is moderation. Continuing losses should be replaced with isotonic solutions, but for the hypotonicity hypertonic

saline should be given, but in relatively small amounts. Saline, 3 per cent, 300 to 500 cc. should be administered, and the body given twelve to twenty-four hours to equilibrate. Repeat serum studies are then made and further saline given as needed, as soon as possible, preferably by the oral route.

Of particular hazard in sodium depleted patients is the use of clyses of 5 per cent glucose in distilled water. Before this fluid can be absorbed, it must be rendered of equal electrolyte concentration as the plasma. For this, the body must deplete its own plasma of electrolytes, and in so doing can suddenly and seriously lower the sodium concentration. The hazard is obvious. Thus clyses should be of normal saline, or at the very least, half normal saline with 2.5 per cent glucose.

We have seen that sodium is needed when abnormal amounts have been lost from the gastrointestinal tract, but there are other abnormal losses beside obvious losses in sweat or by paracentesis. These are in two general categories. The first is by internal sequestration of fluid. This occurs locally in areas of trauma or inflammation, as in burns, or into the abdomen in peritonitis and pancreatitis. It also occurs in any area with acute venous obstruction. The second source of sodium loss is through the urine. Normal kidneys preserve sodium very well and can lower its excretion to virtually zero, but in certain disease states this ability is lost. In osmotic diureses, such as diabetes mellitus, large amounts of sodium are carried out before reabsorption can occur. In metabolic acidosis, sodium is used as a base to be excreted with the acid. In adrenal insufficiency, the kidneys lose the aldosterone effect of sodium reabsorption. Finally, in the even rarer disease of salt losing nephritis, the kidney has lost the ability to selectively save sodium. These latter causes must be ruled out.

If the serum sodium is low from extrarenal loss, the loss must be great and the source of loss should be apparent from the history and physical examination. Lacking that, the urine should be analyzed for sodium. If this is high, when the intake of sodium is low, it can be presumed that the kidneys are not reabsorbing sodium. Small doses of DOCA (desoxy-corticosterone acetate) can be given for one day.[8] If this fails to inhibit the excretion of sodium, a salt losing kidney can be diagnosed and then adequate sodium must be administered to keep up with the urinary output. Fortunately, this is a very rare cause of sodium depletion.

Finally, there are two more causes of a low serum sodium, but without a sodium deficit. The first of these is dilution.[1, 3] This occurs when a large water load is forced on a patient whose kidneys have impaired water excretion. Such a condition exists in shock and in organic renal disease. It occurs routinely after any severe trauma when the anti-diuretic hormone of the posterior pituitary is secreted. This hormone markedly decreases urine water excretion. Surgery and narcotics enhance its secretion. Such a patient with normal total body sodium suffers a drop in his serum sodium, and thus becomes hypotonic with cellular swelling and all of its hazards. Some hypotonicity is normal postoperatively, but large infusions of 5 per cent glucose in distilled water, frequent enemas or large oral intakes can intensify this condition. It can be recognized by a lethargy progressing to semicoma. Treatment is simple water restriction. If water loading is acute, convulsions can occur from cerebral edema. Then, hypertonic saline is needed; 300 cc. of 3 per cent will usually suffice, but remember, the body does not need sodium, it simply has too much water.

The last cause of a low serum sodium and the one least often recognized can be called asymptomatic hyponatremia. It occurs in any chronic illness and in convalescence from any severe trauma. The low serum sodium (generally 125 to 130 mEq./liter) reflects hypotonicity of the entire body, but there is no sodium deficit. Administered sodium is excreted quantitatively in the urine, and except very temporarily, the serum level cannot be raised by infusions of sodium chloride,

no matter of what concentration or amount. The cause is apparently an energy deficit and the only cure is improvement in the primary condition. To give these patients large amounts of sodium is especially hazardous, as it may lead to congestive heart failure and pulmonary edema.

In summary, we see that there are a number of causes for a low serum sodium, many of which do not require sodium for therapy. (Table 1) Usually, if there has been sodium loss, the source of loss is obvious and the treatment will be as outlined. However, there will be cases in which the need for sodium is in doubt. In this group it is safe to infuse 300 cc. of 3 per cent saline and observe the results. If no improvement occurs, be cognizant that it may either be dilution, or more likely, an asymptomatic hyponatremia.

TABLE 1
CAUSES OF LOW SERUM SODIUM

1. Increase in non-electrolytes
2. Sequestration of sodium containing fluid within body
3. Loss of sodium from body
   a. Gastro-intestinal tract
   b. Urine
   c. Sweat, spinal fluid, paracentesis, etc.
4. Dilution
5. Asymptomatic Hyponatremia

Potassium

The second ion to be discussed is potassium, which is chiefly an intracellular one. Potassium is present in all body fluids and is excreted in large amounts in the urine, usually 30 to 60 milliquivalents a day, a loss which usually continues in spite of a body deficit. In any disease state in which there is either an abnormal loss of body fluids or an absence of potassium intake, a deficiency state can occur. As potassium is lost from the cells, it is replaced by sodium and hydrogen ions in the ratio of two sodium to one hydrogen.[9] (Figure 4.)

Since these hydrogen ions are supplied by the extracellular fluid, it is obvious that the extracellular fluid becomes more alkaline. This is independent of any renal mechanism and is reversible by the administration of potassium. A similar transfer mechanism occurs in the kidneys, and in the presence of an alkalosis, the kidney tries to save hydrogen ions, and in its place, excretes sodium and potassium. Thus, potassium deficiency leads to alkalosis and alkalosis leads to potassium deficiency. Neither can be corrected without the administration of potassium.

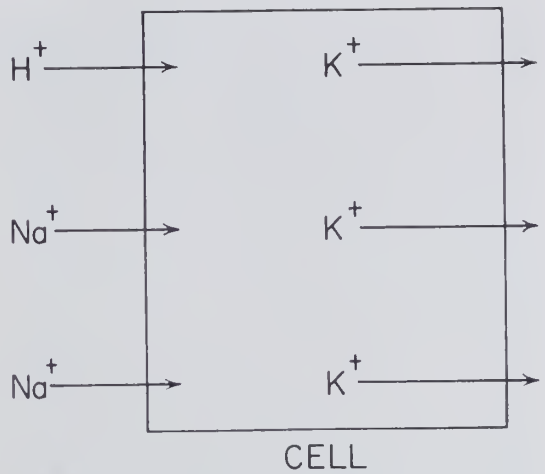


Figure 4.—Cellular potassium loss is replaced by sodium and hydrogen ions from the extracellular fluid.

Potassium deficiency is particularly evident in patients with high intestinal obstruction such as an obstructed duodenal ulcer. In vomiting acid gastric juice, hydrogen ions, potassium, chloride and sodium are lost. When these patients are first seen, their serum electrolytes usually show a low sodium, a low chloride, a high CO_2, and a low or normal potassium. Administration of saline may improve the patient considerably, but the alkalosis will persist until potassium is given.

How much potassium to give? Again it is impossible to know the true deficit, but there are guide posts. The maximum amount ever lost in any condition is about 17 mEq. per kilogram, or about 1,000 mEq. in a 60-kilogram man. Usually the need is one-third to one-half this amount. This of course should not be administered in any one day. The maximum safe dosage is 3 mEq. per kilogram per day, with no more than 60 mEq. in any one liter of fluid. The danger of giving more than this of course, is of raising the serum

level too high, with toxic effects on the heart. For this reason, potassium should never be given until adequate urine output has been established. Once positive balance is restored, many days may be required for complete replacement. Where a deficiency is compounded by a continuing loss, either through the kidneys or from the intestinal tract, it is important that adequate potassium be given each day to cover the loss as well as to make up the original deficit. Ordinarily 40 mEq. of potassium chloride a day will cover urinary excretion; 10-15 mEq. should be added for each liter of gastrointestinal fluid lost from the body.

Magnesium

The last ion to be discussed is magnesium. Only recently has a deficiency been recognized in man.[10-14] Magnesium is found chiefly intracellularly, half of it being present in bone. The normal daily intake is 200 to 300 mgms. Its absorption from the gastrointestinal tract is under no known control. Urinary excretion is temporarily enhanced by aldosterone and parathyroid hormone, but this effect does not continue.

Magnesium has both a local and a central effect on the central nervous system. Locally, a decreased magnesium level causes an increase in nerve conduction and an increase in transmission of impulses at the motor end plates. Centrally, a magnesium deficiency produces excitability and irritability. The normal serum magnesium is 1.8 to 2.1 mEq. per liter. Low levels are seen in chronic nephritis, congestive heart failure which has been treated by ammonium chloride and mercurial diuretics, and in acute pancreatitis, where like calcium, magnesium is deposited with fatty acids as soaps. In none of these conditions, however, has magnesium deficiency been shown to play a part in the pathologic process. Low serum magnesium levels are often seen in chronic alcoholics, but there is probably no relationship between this and the development of delerium tremens.

There is, however, a syndrome of magnesium deficiency. It occurs where there is a prolonged absence of oral intake coupled with an abnormal loss, either through the gastrointestinal tract or the urine. The signs and symptoms are those of irritability progressing to tetany and are indistinguishable from those of calcium deficiency, except that there will be a normal serum calcium and a low serum magnesium. However, the determination of serum magnesium is still difficult, and only a few laboratories render this service. If the syndrome is suspected, magnesium therapy should be begun. One word of caution: both a low serum potassium and a low serum calcium antagonize the effects of a low magnesium. This is of clinical importance. First, in a combined potassium and magnesium deficiency, the magnesium deficiency may not manifest itself until the potassium level is restored. Second, if calcium is given intravenously to patients in magnesium tetany, it will only aggravate the condition. Magnesium therapy should be given as a fifty per cent solution $MgSO_4$ intramuscularly. Four ccs. can be given every six hours for one or two days. It can be given intravenously, but high serum levels of magnesium are sedative and can produce coma. Since this is an intracellular ion, improvement is slow, generally requiring twelve to twenty-four hours before any change is seen in the clinical state.

Summary

We have briefly covered some abnormalities of the three major cations of the body. Serum concentrations of these ions are often useful in gauging their clinical need, but several examples have been given in which a low serum content is a result of causes other than a body deficiency of the ion. Proper therapy thus demands a complete evaluation of the patient. In doubtful cases, conservatism should be the rule.

Finally, a word of solace to all practitioners of the electrolyte art. There will be some cases which absolutely defy all rational explanation, but there is one hope; if the basic disease can be eradicated and

oral alimentation restored, there will shortly be no electrolyte problem.

References

1. Wynn, Victor: Water Intoxication and Serum Hypertonicity; Metabolism, Clinical and Experimental, 1956, Pp. 490-499.
2. Gamble, James L.: Chemical Anatomy, Physiology and Pathology of Extracellular Fluid, Harvard Univ. Press, Cambridge, Mass. 1947.
3. Moore, Francis D.: Common Patterns of Water and Electrolyte Change in Injury, Surgery and Disease, New England J. Med., 258:277 285, 325 333, 377-381, 427 431, 1958.
4. Halliday, Malcolm and Eagan, Thomas: Dehydration, Salt Depletion and Potassium Loss, Ped. Clin. N. America (Feb.) 1959 Pp. 81-98.
5. Bland, John W.: Disturbance of Body Fluids, W. B. Saunders, 1956, Phila. Pa.
6. Pratt, Edward L.: The Clinician and Potassium Metabolism, J. Pediatrics, 55:216, 1959.
7. Moore, F. D., McMurrey, J. D., Parker, H. V. and Magnus, I. C.: Symposium: Water and Electrolytes, Metabolism 5:117 (July) 1956.
8. Moore, F. D.: The Low Sodium Syndromes of Surgery, J.A.M.A. 154:379 (January 30) 1951.
9. Darrow, D. C.: Physiologic Basis of Potassium Therapy, J.A.M.A. 162:1310 (December 1) 1956.
10. Wacker, W. E. C. and Vallee, Bert L.: Magnesium Metabolism, New England J. Med. 259:431-435 and 175-181, 1958.
11. Flink, Ed B., McCollister, Robert., Prasad, A. S., Melby, James C., and Doe, Richard P.: Evidences for Clinical Magnesium Deficiency, Ann. Int. Med. 47:956, 1957.
12. Vallee, Bert L., Wacker, W. E. C., and Ulmer, D. D.: Magnesium Deficiency Tetany in Man, New England J. Med. 262:155, 1960.
13. Wacker, W. E. C., and Vallee, Bert L.: Pathologic Abnormalities of Magnesium Metabolism, M. Clin. N. America 44:1357 (September) 1960.
14. Clough, Paul: Magnesium Deficiency, Ann. Int. Med. 53:615 (September) 1960.

To Our Readers—A New Proposition

The Managers of this Journal announce a new departure at the end of the present number which closes the volume. We have long recognized the desirability of conducting it on strict business principles, but have so far felt unable to break off from the traditions and habits of the past. The subscription price of the Journal, once more and never less than five dollars a year, was expected to cover the risks of an indefinite credit. Changes from a bi-monthly to a monthly and from 80 pages in number to 100, do not seem to answer the wants of physicians in the Southwest. Evidently they require a cheaper journal, like their brethren in other parts of the country, and we shall attempt to answer the demand. We therefore propose to reduce the subscription price to three dollars a year, from July 1, 1881; but as this moderate rate allows no margin for risks, we are under the necessity of insisting strictly on payment in advance.

New Orleans M. & S. J. 8:1183, (June) 1881.

Postpartal Pneumoperitoneum

• The author gives an account of a case in his own experience caused by the knee-chest position exercise and cites others from the literature.

JOHN A. WORLEY, M. D.
Alexandria

THE title of this paper is so given to focus attention on pneumoperitoneum occurring in the postpartum period unrelated to a primary diseased state.

Pneumoperitoneum is always the result of an induced procedure or a complication of a previously existing disease. Spensley, Nelson, and Childs [10] made a fairly comprehensive review of the existing literature and listed the following causes for pneumoperitoneum:

1. Perforated benign ulcerations of the stomach and duodenum.
2. Perforated malignancies anywhere in the gastrointestinal tract.
3. Perforated ulcerations of the bowel due to (a) Typhoid (b) Tuberculosis (c) Regional enteritis (d) Ulcerative colitis and (e) Foreign body.
4. Ruptured appendix.
5. Ruptured Meckel's diverticulum.
6. Ruptured diverticulum of the colon.
7. Following laparotomy.
8. Following gastroscopy.
9. Following the Rubin test.
10. Following the knee-chest position exercises in the postpartum female.
11. Following use of a douche.
12. Trauma to the rectum or sigmoid with an enema tube or other instrument.
13. Blunt trauma to the abdomen.
14. Pneumatosis cystoides intestinalis.
15. Peforation of the bowel due to an obstruction.
16. Idiopathic perforation of the bowel.
17. Idiopathic perforation of the stomach.
18. Following therapeutic pneumothorax.
19. Intraperitoneal abscess with gas forming organisms.

They also mention that pneumoperitoneum has been associated with tonsillectomy, pharyngeal diverticulectomy, pulmonary bullae and pneumonia with the causal relationship underlying not being clear. It is interesting to note that in their list they include (Number 10) pneumoperitoneum occurring in the postpartum female.

Case Report

The case as reported here and those in the prior literature appear to have occurred by an unusual mechanism, that is, by an unexpected passage of air into the abdominal cavity by way of the female genital tract.

The patient, a 33 year old housewife, was seen at home about 11:30 a.m. on December 15, 1959. About 10:00 a.m. she developed a severe epigastric pain which became generalized across the upper abdomen. The pain radiated into the right chest, shoulder, right side of her neck and down into the right arm. The pain was sharp and aggravated by taking a deep breath, changing positions, and swallowing. She had no fever or cough. She had noticed no previous abdominal pain. At this time she was three weeks postpartum and had been taking knee-chest exercises since the second or third postpartal day. The onset of her symptoms occurred approximately one hour after taking the morning's exercises. (She was aware that air had entered the vagina during her exercises. She mentioned this later after the diagnosis had been established.)

Her past health had not been remarkable. She had been periodically bothered by sinusitis. Three previous pregnancies had been uneventful.

Physical examination showed a well nourished, healthy but apprehensive young lady. Her temperature was 98.4°F. Her blood pressure was 110/70 mm. of mercury. The pulse rate was 90 per minute. Her physical examination was entirely normal except for tenderness to pressure over the right abdomen and absence of hepatic dullness to percussion. Pelvic examination was not performed.



Figure 1.—A moderate amount of subdiaphragmmatic air is present. This was taken approximately four hours after the onset of symptoms.

In view of the patient's apparent good health, a tentative diagnosis of a displacement of the intestine or colon over the dome of the liver was made. She was sent to the hospital, ambulatory, where a roentgenogram (Figure 1) of the lower chest and upper abdomen was made. This showed air under the diaphragm establishing the diagnosis of pneumoperitoneum.

Her course was uneventful, the pain on changes in position being noted but gradually decreasing until it disappeared within the next thirty-four to thirty-six hours.

Comment

The general healthy condition of this patient pointed to a benign etiology for the pneumoperitoneum. This is not so when, as most usually seen, it is due to a perforation of the gastrointestinal tract. The benign clinical picture has been well pointed out in the discussion of a similar case by Conn and LaFon.[1] Their case was that of a young lady five weeks postpartum. The pneumoperitoneum in this case recurred two months later while pelvic examination was being performed in the knee-chest position.

The cases of Bean and Garrett,[2] Dodek and Friedman,[3] Lozman and Newman,[15] were also similar. In all cases the patient was a healthy, postpartal young lady. Upper abdominal pain and thoracic pain related to respiration and changes in position developed after assuming the knee-chest position. Loss of hepatic dullness to percussion was the pertinent physical finding in the case reported and in 2 others. In 1 case no mention was made of the physical findings and in the other the only noted abnormal finding was diminished breath sounds over the right lung field posteriorly. Roentograms of the chest established the presence of a pneumoperitoneum in all.

The mechanism responsible for the passage of air into the abdominal cavity by the way of the genital tract is not completely clear. It is suggested by the cases reviewed that two factors are of the utmost importance, one being a more patent genital tract allowing air to more easily pass through the vagina, uterus, and fallopian tubes. It would seem probable that this patency would exist toward the end of the sixth week, this being the time required for involution of the uterus.[7] In performing the Rubin's test in the normal female, it has been found that from 70 to 100 mms. of mercury pressure is required to force air through the normal oviducts.[4] In this respect cases of pneumoperitoneum have been reported due to the passage of douching fluid and air under pressure through the genital tract.[3, 6, 10, 14]

The second and probably the most important factor is the knee-chest exercise. It has been known that upon assuming this position with the chest down, the vagina will balloon out and fill with air.[4] It then seems reasonable as mentioned by Redfield et al[9] that when the patient descends from this position the labia close and with collapse of the uterus and vagina air is forced out into the oviducts and escapes into the abdominal cavity if it cannot escape through the vaginal orifice below. The descent of the viscera toward the chest probably creates a decreased

intra-abdominal pressure enhancing the passage of air. Garland [8] mentioned a patient who developed a pneumoperitoneum on two occasions after vigorous knee-chest exercises on the advice of a cultist. The recurrence in the case reported by Conn and LaFon was in conjunction with a pelvic examination performed in the knee-chest position. It is probable that pneumoperitoneum as a consequence of knee-chest exercises in the postpartum period occurs more frequently than the reports in the literature would suggest.

Schneewind [11] reported a case of a 25 year old woman on whom an exploratory laparotomy was performed for an unexplained pneumoperitoneum. Nothing was found except a moderate mesenteric adenopathy. In the history it was mentioned that she had previously been an obstetrical patient. In his discussion he mentioned sources, such as, (1) escape of gas from minute perforations of the stomach or upper intestinal tract, (2) from the chest via a lymphatic hiatus and due perhaps to rupture of an emphysematous bleb, and (3) vaginal through the fallopian tubes following douching. It was not mentioned whether this patient had been performing knee-chest exercises or how long prior to the pneumoperitoneum she had been an obstetrical patient.

That the use of the knee-chest exercises in the postpartum period is not always innocuous is attested by the reports of air embolism with death occurring in the postpartum period. Such cases have been reported by Redfield et al [9] who reviewed 2 cases from the literature and reported two cases of their own. These cases occurred from the seventh to the eleventh postpartum day.

Karondy et al [16] in their discussion of fatal air embolism mentioned a report of Brodsky and Greenstein [17] of fatal air embolism following the knee-chest exercises. Waldrop [13] reviewed 4 previously reported cases of fatal air embolism following the knee-chest exercises. Two of these were the cases reported by Redfield et al. The likely route by which air was introduced was by way of the genital tract into the subinvoluted uterus then through the uterine veins. In these cases it seemed apparent that the knee-chest exercises produced the pressure required for the entrance of air in this manner.

In the cases reviewed of the mechanism by which air entered the abdominal cavity that it was atmospheric air has only been deduced by the histories and examinations of the patients. A more scientific approach was made by Nanson and Dragon [12] who reported a case of spontaneous pneumoperitoneum due to jejunal diverticulosis. They did a gas analysis on the aspirate from the peritoneum. They felt that the analysis was such to suggest that the gas was of bacterial origin. The absence of hydrogen sulphide and the low methane content suggested it not only came from but was high in the gastrointestinal tract. It could be assumed that if gas analysis had been made from the peritoneal air in the postpartal cases that it should have been of atmospheric content.

Summary

1. A case of pneumoperitoneum in the postpartum period is reported. Other cases of pneumoperitoneum of genital origin have been reviewed.

2. The mechanism of the pneumoperitoneum as related to the knee-chest position and a subinvoluted uterus with the dangers inherent are mentioned.

3. A suggestion is made that knee-chest exercises be discontinued until the time required for involution of the uterus has passed.

References

1. Conn, H. O., and LaFon, W. F.: Recurrent Spontaneous Pneumoperitoneum. Am. J. Obstet. and Gynec. 71:1342 (June) 1956.

2. Bean, L. L. and Garrett, R. I.: Spontaneous Pneumoperitoneum (from exercise during puerperium). U. S. Armed Forces Medical Journal 5:375 (March) 1954.

3. Dodek, S. M. and Friedman, J. M.: Spontaneous Pneumoperitoneum, Obstet. and Gynec. 1:689 (June) 1953.

4. Novak and Novak: Textbook of Gynecology, Fourth Ed. Williams and Wilkins Co. Baltimore, 1952.

5. Moberg, G.: Two cases of pneumoperitoneum without any signs of perforation of alimentary canal or abdominal wall, Acta Radiologica 18:798; 1937.

6. Coulnaud, C. and Bataille, F.: Sur une observation de Pneumoperitonie d'origine Genitale chez la Femme. Press Medicale 62:62; 1954.

7. Williams Obstetrics. Eastman Tenth Ed. Appleton Century Crofts, Inc. New York.

8. Garland, L. H.: In discussion of paper by Stiltson, W. L. and Newfeld, O. J. California Med. 70:269; 1949.

9. Redfield, R. L. and Bodine, H. R.: Air Embolism following the Knee Chest Position. J.A.M.A. 113:671; 1939.

10. Spensley, R. D., Nelson, R. E., and Childs, W. A.: Unusual Causes of Free Intraperitoneal air in Acute Conditions of the Abdomen. Amer. J. Surg. 91:341; 1956.

11. Schneewind, J. H.: Spontaneous Pneumoperitoneum, Am. Surgeon 22:525; 1956.

12. Nanson, E. M. and Dragon, G. E.: A Spontaneous Pneumoperitoneum due to Jejunal Diverticulosis, Ann. Surg. 143:112 (January) 1956.

13. Waldrop, G. S.: Fatal Air Embolism during Term Labor and Puerperium, Obstet. and Gynec. 1:454 (April) 1953.

14. Fisscher, H. W.: Free Intraperitoneal Air, Am. J. Roentgenol 76:113 (July) 1956.

15. Lozman, H., and Newman, A. J.: Spontaneous Pneumoperitoneum Occurring during Postpartum Exercises in Knee-chest Position, Am. J. Obstet and Gynec. 72:903 (October) 1956.

16. Karondy, E. J., Dick, H. J., Dwyer, R. P., and McKinnon, H. J.: Fatal Air Embolism; a Report of Two Cases, Including a Case of Paradoxical Air Embolism, Am. J. Obstet. and Gynec. 78(1):96 (July) 1959.

17. Brodsky, Jack D. and Greenstein, Carl: Air Embolism Associated with Pregnancy and the Puerperium, Illinois M. J. 112:1 (July) 1957.

Soluble Compressed Pellets for Hypodermic Use

We have received from John Wyeth & Brother a case containing specimens of these pellets in small vials, variously composed of morphine, and morphine with atropine, rendered more soluble by combination with sodium sulphate. Each pellet is intended for a dose, to be dissolved in a suitable quantity of water. A convenient method is to break a pellet into fragments in a spoon; then take up a few minims of water with the hypodermic syringe and throw it into the spoon to dissolve the dose, when ready for use. The advantage of this plan is the avoidance of the penicillium, which is sure to form, sooner or later, in the solutions kept for use. A few drops of chloroform in the solution will, however, greatly retard the appearance of this vegetation; but, unless one has quite frequent occasion to use the hypodermic syringe, he will probably find the pellets an improvement on the readymade solution.

New Orleans M. & S. J. 8:1187 (June) 1881.

Primary Common Bile Duct Stones*

• The value of intravenous cholangiography using cholagrafin methylglucamine to demonstrate choledochal stones is well illustrated by two case reports, as well as the fact that stones may occur in any part of the ductal system without having first originated in the gallbladder and later moved into the ducts.

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COMMON bile duct stones occur most often in association with stones in the gallbladder, and when they occur as a post-cholecystectomy complication it is usually within a few months after operation. Until recent years whenever a patient said that the gallbladder had been removed *many* years ago, one generally dismissed the biliary system as a source of upper abdominal or chest pain and concentrated his efforts on other organs or organ systems. However, since the advent of intravenous cholangiography with Cholagrafin more of the cases of late post-cholecystectomy comman duct stones are being accurately diagnosed.

This paper was prompted by two such cases that came to my attention in 1959. One had had a cholecystectomy for cholelithiasis twenty-five years previously; the other thirty years.

Case Reports

The first case is that of an obese 50 year old white woman, the mother of two children, who had a cholecystectomy for cholelithiasis in 1934. For twenty-three years she enjoyed good health insofar as her digestive tract was concerned. In the twenty-fourth year she complained of vague upper abdominal and precordial pains, which were at first thought to be of cardiac origin because her gallbladder was out.

She was obese, a known hypertensive, and sometimes got quick relief with nitroglycerin. However, in the ensuing two years she went through periods of complete freedom from discomfort alternating with pains that were variably either in her upper abdomen, precordium, or back. On one occasion she was hospitalized for suspected coronary thrombosis.

Complete laboratory, x-ray, and repeated electrocardiographic studies were all normal. At no time was she ever jaundiced, clinically or chemically.

Finally, in March 1959, intravenous cholangiography was done using Cholagrafin methylglucamine. The widely dilated common duct was adequately visualized but because of the overlay of intestinal contents one could not be certain of the nonopaque stones which were brought out admirably, using body section radiography.

Accordingly on April 29, 1959, exploration of the common bile duct was done, and multiple large stones which were adherent to the wall of the dilated and loculated common duct, and a single large stone adherent to a cystic duct remnant, were removed. Bake's dilators were easily passed and the surgeon felt that there was no evidence of obstruction at the sphincter of Oddi. A T-tube was left in the common duct and the patient recovered uneventfully and went home on the eighth postoperative day. Three weeks later the T-tube came out inadvertently one night.

The patient got along fine, completely free from symptoms, on an unrestricted diet, until January, 1960, at which time she was again seized with what she stated was the worst pain she ever had—right upper quadrant pain radiating to the back and precordium. This pain was completely relieved by 200 milligrams of Demerol orally.

Another electrocardiograph was normal and intravenous cholangiography did not reveal any stones. She probably passed a small reformed stone and has remained well to the present time.

The second case is that of a white man aged 61, whose first trouble began in 1921, when he had a cholecystostomy, his gallbladder being emptied of multiple stones. At that time he had fever, jaundice, distention, vomiting, and was said to be quite toxic. He gradually recovered and remained well until 1929 when he had a recurrence of cholecystic symptoms, which culminated in a cholecystectomy in the fall of that year.

After this he stayed well, with the exception of occasional attacks of gout, until 1955. At

* Presented at the Eightieth Annual Meeting of the Louisiana State Medical Society, in Baton Rouge, May 4, 1960.

that time, he began to have intermittent attacks of some upper abdominal pain which sometimes radiated into the precordium and back. These attacks were often associated with mild degrees of jaundice, and occasional fever, with or without chills, and sometimes the pain was severe enough to require hypodermic medication. At other times, severe pain of short duration would come on suddenly and then leave just as suddenly. He traveled widely, saw many physicians, and had various diagnoses made.

In April 1959, about one week after returning from a vacation with a severe chest cold, he was first seen at home with a recurrence of severe upper abdominal and chest pain, jaundice, chills and fever 103°F. He was hospitalized with tentative diagnosis of common bile duct stones and acute cholangitis.

Chest x-ray revealed pneumonitis and atelectasis at the right base which may have been the cause of fever with this attack.

At this time he had a leukocytosis of 15,000 with 96 per cent neutrophiles, serum bilirubin of 7.7 and icterus index of 32.5.

He responded well to penicillin and streptomycin, and infusions, and was fever free in five days. On the eighth hospital day he was suddenly seized with an acute attack of gout, from which he likewise recovered.

He convalesced at home until he was symptom free and chemically normal, so that in May 1959, intravenous cholangiography was carried out. The common duct was greatly dilated and showed large radiolucent stones. Body section radiography was valuable in clarifying the existence of these stones. In this case a postoperative T-tube cholangiogram showed the ducts to be free of stones.

In July 1959, exploration of his common bile duct revealed it to be greatly dilated, harboring three large and several small stones that were free in the duct, and also a large stone in the remnant of the cystic duct. Bake's dilators were likewise passed with ease in this case and the surgeon felt that there was no obstruction at the sphincter of Oddi.

His postoperative course was also uneventful, and he went home on the eighth postoperative day after having a T-tube cholangiogram which showed the common and hepatic ducts to be free of stones. In this case the T-tube was removed on the twelfth postoperative day and the patient has remained well to date.

Comments and Discussion

From the standpoint of pathophysiologic and clinical manifestations, the entire subject of biliary tract stones is a fascinating and often perplexing one that lends itself readily to almost endless discussion and speculation. It is therefore the purpose of this presentation to do no more than point up some of the interesting and salient features of the two unusual cases here presented, and to bring to your attention the value in such cases of the relatively new diagnostic tool, intravenous cholangiography with Cholagrafin methylglucamine.

First of all, the stones in these two cases are called "primary stones" to indicate that stones can and do occur in any part of the ductal system without having first originated in the gallbladder and later moved into the ducts. Such stones are not common, but nevertheless, it is well to bear in mind that this does happen, and that the removal of the gallbladder does not necessarily mean the end of gall stones even if the ductal system was free of them at the time of operation. Almost everything written about choledochal stones refers to them as retained, residual, overlooked, or reformed stones, the latter implying that a nidus was left at the time of surgery. Likewise, almost all such stones occur relatively soon after cholecystectomy, generally a matter of months and *not* years. Thus, it seems reasonable to say that the stones in these two cases, manifesting themselves twenty-three and twenty-five years after operation, originated in the respective common ducts which in effect had become common duct "gallbladders". It might be added that there is some experimental evidence to show that this can occur.

The wide variability in clinical manifestations of common duct stones is also admirably brought out by these two cases. Actually, the only symptom common to both was pain, and even this was inconsistent. In the first case, the pain was vague upper abdominal, not clearly right upper quadrant, sometimes precordial, generally not present at more than one location at a time; usually no more than a deepseated awareness of discomfort; sometimes relieved by nitroglycerin; and only severe enough on one occasion in two years to require a hypodermic for relief.

By contrast, the pain in the other case varied over a period of five years from deep-seated discomfort to severe excruciating pain which came on suddenly and sometimes disappeared quickly, while at other times it lasted for hours with severe exacerbations and required hypodermic relief. When first seen this patient actually described rather typical common bile duct distribution of pain, i.e., upper abdominal mainly right upper quadrant, radiating into the back and into the precordial area, depicting the pain that occurs most often with a stone in the ampulla of Vater and concomitant contraction of the sphincter of Oddi.

In regard to jaundice, which occurs in about 75 per cent of the cases of common duct stone, one of these was never jaundiced clinically or chemically, while the other was frequently jaundiced. Occasional fever with or without chills occurred in the jaundiced patient only, and probably represented instances of either cholangitis (choledochitis) or Charcot's intermittent hepatic fever.

These variations in clinical manifestations are explained well by the underlying pathology demonstrated at surgery. In the patient that was never jaundiced, the large stones were actually adhered to the wall of the common duct and were thus immobile, but allowed a free flow of bile on the non-adherent side of the stones. In the jaundiced case there were both large and small stones floating free in the duct, which readily explains the more severe and variable pain as well as the intermittent jaundice which was at times associated with chills and fever. Variable degrees of obstruction either by a ball-valve effect of a large stone, or by impingement and subsequent passage of smaller stones seems sufficient to explain these different manifestations.

Prior to seven years ago there was no consistently good way to prove the existence of stones like these, short of common duct exploration. As you all know by far the majority of stones are mixed non-opaque ones composed chiefly of cholesterol, and in the past generally were not well demonstrated by the oral administration of any dye. Thus the introduction of Cholagrafin into this country, in 1953, for the first time made it possible to satisfactorily visualize the biliary ducts by intravenous cholangiography. Cholagrafin sodium was first introduced, but was shortly supplanted by Cholagrafin methylglucamine which gives better visualization and practically no serious side reactions when properly used.

As you have seen in these two cases the use of body section radiography in conjunction with intravenous cholangiography, by eliminating the overlay of intestinal contents, is extremely helpful in making certain that the negative shadows seen in the duct are due to non-opaque stones.

About 85 per cent of the time the common duct is visualized with Cholagrafin. This has led to some very interesting findings regarding the size of the common duct in both the pre- and post-cholecystectomy state. The size of the normal duct has been variously placed between 5.5 and 7 mm. in diameter, and one eminent group states that normally the duct may vary from 2 to 14 mm. averaging 5.5. They contend that many of the ducts formerly considered dilated after cholecystectomy should be considered normal up to 14 mms. These figures furnish a good working basis at the present time, but it is probable that further studies on *different age groups*, using *modes* instead of *averages*, could come up with more nearly correct figures. Ducts as large as 30 mms. in diameter are reported in obstructed cases, and the ducts in the two cases reported here measured 22 and 25 mms. in their widest diameter.

Conclusion

These two remarkable cases have clearly indicated that stones may *originate* in the common bile duct decades after cholecystectomy, and should not be overlooked in the differential diagnosis of upper abdominal or chest pain. Intravenous cholangiography with Cholagrafin Methylglucamine in its present form offers a

safe and satisfactory means of clinching the diagnosis, and where indicated should be used in conjunction with body section radiography.

References

1. Colcock, B. P., and Liddle, H. V.: Common Bile Duct Stones, New England J. Med., Vol. 258, No. 6, 1958.

2. Glenn, F. and Johnson, G. Jr.: Intravenous Cholangiography: Correlation With Operative Findings in 72 Patients, Surgery, Gynecology & Obstetrics, 105:473, 1957.

3. Glenn, F., et al: Intravenous Cholangiography Ann. Surg., Vol 140, No. 4, 1954.

4. Howard, F. M., Jr., et al.: Common duct stones producing Charcot's hepatic fever without jaundice, A.M.A. Arch. Int. Med. 103:565, 1959.

5. Imamoglu, K.: Perry, J. F., Jr., and Wagensteen, O. H.: Experimental production of gallstones by incomplete stricture of the terminal common bile duct, Surgery 42:623, 1957.

6. McClenahan, J. L.; Evans, J. A., and Call, D. W.: Residual choledochal stones: Etiology and complications in one hundred and ten cases, A.M.A. Arch. Surg. 68:643, 1954.

7. Schehadi, W. H., and Sabbag, I.: Cholografin Methylglucamine, Am. J. Digest. Dis. Vol. 1, No. 11, 1956.

8. Smith, S. W., et al.: Problems of Retained And Recurrent Common Bile Duct Stones, J.A.M.A. 231:235, 1957.

9. Twiss, J. R., et al.: Postcholecystectomy oral cholangiography, A.M.A. Arch. Int. Med. 95:59, 1955.

10. Wise, R. E., and O'Brian, R. G.: Interpretation of the intravenous cholangiogram, J.A.M.A. 160:819, 1956.

11. Wise, R. E.; Johnston, D. O.; Salzman, F. A.: The Intravenous Cholangiographic Diagnosis of Partial Obstruction of the Common Bile Duct, Radiology, 68: 507, 1957.

The President's Case

The medical Gentlemen in charge of the President* seem to have quite abandoned hopes of his recovery. The civilized world joins in lamenting the tragic occurrence which may result in the death of the chief magistrate of a great nation. But, in connection with this event, our profession cannot hope to escape severe inquisition and criticism on account of its failure to secure a different issue. There is a feeling common to the laity, and one can scarcely declare that our own ranks are free from it, that competency in practice is inseparable from successful results. While in our reflecting moments we all understand how incorrect this method of reasoning is, it is yet true that we may fail in duty to ourselves and our colleagues in question, if we do not at all times, and under all circumstances, defend them from such assaults and prejudices as we know to be unjust.

One of the most embarrassing duties the medical attendants of the President have attempted to perform has been that of issuing frequent bulletins for the Associated Press. * * * The occurrences of the sick room—even those of the greatest moment to the physician, or patient, are very differently appreciated by the average newspaper reader. The surgeon is intensely gratified that his patient retains an enema until his stomach recovers its functions; but when he undertakes to recite the process to the outside crowd, they overwhelm him with ridicule.

* * *

We know nothing of his motives and have not been advised of anything to condemn in his conduct. But when Dr. Bliss informs a newspaper reporter of the occurrences between himself and Dr. Baxter, and adds that "Dr. Baxter will never be Surgeon General," it looks to us very much like evincing a disposition to suborn the prerogatives of his own position to work detriment to another.

New Orleans M. & S. J., 8:231 (September) 1881.

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* James A. Garfield

Diseases About The Major Salivary Glands; Differential Diagnosis

• This article deals largely with the diagnostic roentgen technique, sialography. This technique was recently modified by the author and co-workers at the University of Michigan Medical Center.

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THIS brief discussion of diseases of the parotid and submaxillary salivary glands will deal largely with differential diagnosis of some of the more common inflammatory and neoplastic conditions which may involve these structures.

The most important diagnostic aid in salivary disease in addition to an accurate history and complete physical examination, is the local evaluation. This must include palpation, determination of the type of material, if any, that can be expressed from Stensen's or Wharton's duct as well as probing. In the majority of cases, the technique of sialography should also be utilized.

Sialography is the process of demonstrating roentgenographically the duct system of the salivary glands after the injection of radiopaque media (Fig. 1). The important features of this technique are the use of a polyethylene catheter inserted into either Stenson's or Wharton's duct, a closed system of injection and physiologic reflex stimulation of the salivary gland to evacuate the contrast material by the patient's chewing a potent sialogogue such as a lemon slice.[1] This allows for roentgen examination of the filling phase and postevacuation filming of the emptying phase as well. Emptying films have revealed patterns which have been of assistance in differentiating normal and diseased conditions.[2, 3] The total amount of contrast material injected when the glands are diseased varies between 0.5 cc. and 1.5 cc. and rarely exceeds 2 cc. This method, termed physiological or secretory sialography will demonstrate dilation, obstruction, displacement and obliteration of salivary ducts as well as intraglandular inclusions such as calculi.[4]

Inflammatory Diseases of the Salivary Glands

The inflammatory diseases of the salivary glands may be divided into two general groups:

1. Chronic obstructive sialodochitis—abnormalities primarily in the main duct.
2. Chronic nonobstructive sialodochiectasis — abnormalities primarily in the peripheral ducts (sialectasis).

Chronic Obstructive Sialodochitis. The chronic obstructive inflammatory diseases of the major salivary glands are due primarily to stones and strictures. In effect this is a suppurative sialadenitis and is due to secondary infection subsequent to continued partial obstruction of the main ducts and to salivary flow.

Patients suffering with chronic obstructive sialadenitis are subject to acute exacerbations of infection characterized by swelling of the gland, pain, temperature and purulent discharge from the main duct orifice. When sialolithiasis is considered, the submandibular salivary gland claims 75 to 85 per cent of cases. Approximately 20 per cent of salivary gland calculi are nonopaque. In the case of the

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Permission has been granted by W. F. Prior Co., Hagerstown, Md. to use Figures 7, 8, 9 and 14 from Chapter 9 of Coates-Schenck-Miller Textbook of Otolaryngology, by I. M. Blatt, J. H. Maxwell, and J. E. Magielski.[4]



Figure 1.—Normal sialogram of the parotid glands. Filling phase of each gland was made consecutively.

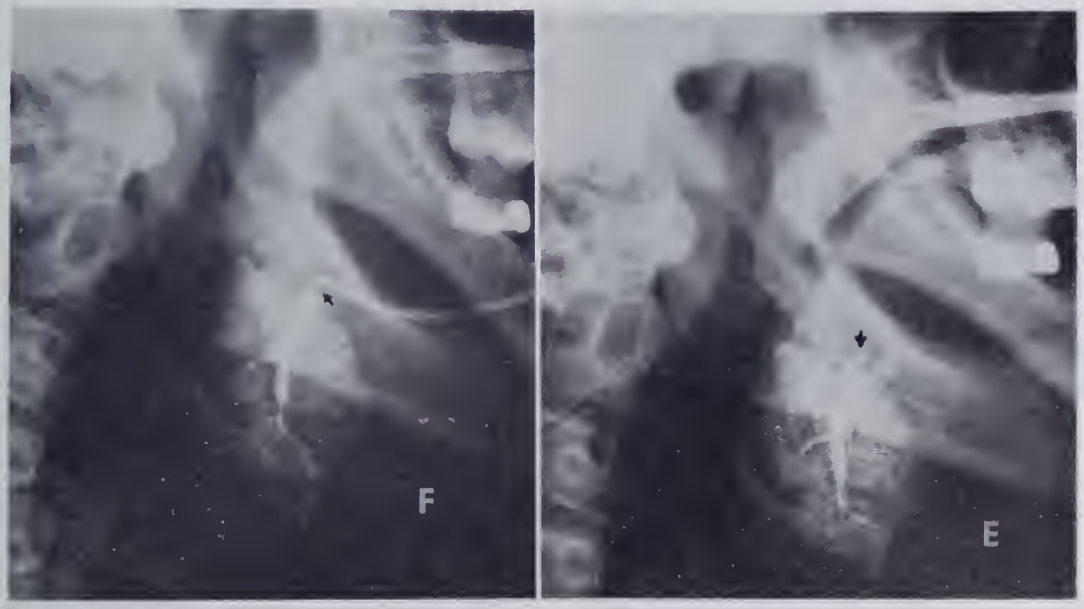


Figure 2.—Sialogram of a submaxillary calculus. The filling phase (left) demonstrates a calculus near the hilum of the gland, lodged in the proximal dilated portion of Wharton's duct. The emptying phase (right) shows that upon stimulation, the salivary flow forces the stone into the narrower, distal portion of Wharton's duct. This poststimulation film demonstrates the ball-valve mechanism of the obstruction to salivary flow which is the basis of acute pain and swelling precipitated by eating.

small calculus (1 to 3 mm.) bidigital palpation in the floor of the mouth or probing the duct fails to localize it. Whether calculi are opaque or radiolucent, the knowledge of the number and the position in relation to the main duct and gland parenchyma will aid in planning surgical removal. In this regard, sialography is a useful diagnostic aid in identification as well as localization of salivary stones.

In Figure 2 the filling phase of sialography demonstrates a calculus near the hilum of the submandibular gland and lodged in the proximal dilated portion of Wharton's duct. The post-stimulation film demonstrates the ball-valve mechanism of obstruction to salivary flow which may be the basis of pain and swelling precipitated by eating.

In long standing cases of sialadenitis with sialolithiasis, there may be loss of the arboreal pattern of the normal gland. The main duct is dilated; and because of chronic infection and atrophy of salivary parenchyma, irregular collections of contrast material suggest abscess formation within the gland (Fig. 3). Occasionally



Figure 3.—Sialogram of a submaxillary calculus associated with chronic sialadenitis. The arboreal pattern of the peripheral duct system is obliterated. The main duct is dilated with irregular collections of contrast material which suggests abscess formation within the gland.

calculi may erode the wall of the main duct and become lodged in the gland substance. This results in production of chronic infectious granulomas which in themselves cause continued suppuration and further duct obstruction. Total parotidectomy with a complete anatomical dissection of the facial nerve is frequently the only suitable treatment for this form of chronic gland suppuration (Fig. 4).

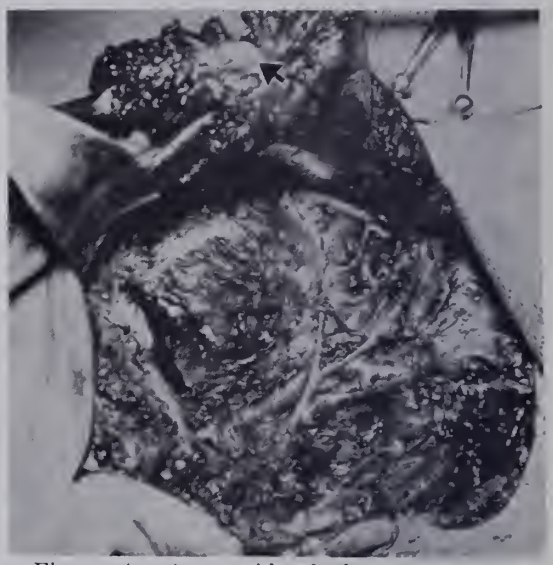


Figure 4.—A parotid calculus (arrow) which eroded the wall of Stensen's duct and lodged in the gland substance. This resulted in a chronic infectious granuloma which required parotidectomy.

Strictures, as they involve the salivary glands, are obstructive phenomena invariably associated with Stensen's duct and are a frequent cause of recurrent parotid swelling. This condition appears definitely associated with alteration in the mechanism of mastication in a manner which does not sustain the normal chewing habit. This type of obstructive sialodochitis occurs in the naturally dentitioned patient and in those individuals with partial or complete dentures which are ill fitting.[5]

As a result of the altered mastication mechanism, strictures occur at the parotid papilla which is subjected to repeated trauma, inflammation, fibrous tissue proliferation and scar tissue cicatrization. This interferes with normal salivary flow and the ensuing pressure behind the stricture results in dilation of the gland duct. It is not long before secondary bacterial infection supervenes with diffuse inflammatory reaction along the bucco-masseteric course of Stensen's duct and with



Figure 5.—Sialogram of inflammatory strictures due to ill-fitting dentures. The filling phase of this quadriglandular sialogram demonstrates the markedly dilated and, irregularly segmented ducts (Stenson's ducts). The submaxillary ducts (Wharton's ducts) can be similarly involved, though the degree of dilation is not so pronounced. There is no alteration of the peripheral duct architecture. The post evacuation film indicates that the obstruction at the outlet (orifice) is the principal deterrent to evacuation.

production of multiple inflammatory strictures (Fig. 5). A cordlike Stensen's duct can usually be palpated along its buccomasseteric course. Upon probing the duct, dilated segments alternate with strictures. A gritty sensation imparted to the probe by the hypertrophic and metaplastic duct epithelium may be mistaken for calcareous material.[5]

The diagnostic features of the carbonate apatite salivary calculus [6] affliction as well as stricture formation is main duct obstruction without peripheral duct involvement. This serves to differentiate chronic obstructive sialodochitis from recurrent nonobstructive sialadenitis with sialectasis.

Chronic Non-Obstructive Sialodochiectasis includes a heterogeneous, but clinically related group of diseases which have a similar and characteristic sialographic-histologic pattern known as "sialectasis". These entities include Sjögren's syndrome, recurrent pyogenic parotitis in children and adults and Mikulicz's disease. Both the parotid and submaxillary salivary glands may be affected.

Recurrent tense swelling of the parotid glands is the predominant symptom in this disease group. Although the parotid swelling is usually bilateral, one side may be more severely involved in some cases. Pressure on the gland may cause frank pus or plugs of turbid gelatinous saliva to appear at the orifice of Stensen's duct. Bacteriologic examination reveals the pneumococcus or the streptococcus in pure culture. The patterns of sialectasis are diagnostic and may be identified histologically as well as radiologically and classified into four stages: [2]

1. Punctate sialectasis, in which the earliest findings are characterized by a diffuse punctate dilation of the peripheral ducts which may be less than 1 mm. in size (Fig. 6). With recurrent episodes of parotitis the interlobular ducts are narrowed by periductal lymphocytic infiltration and septal fibrosis. Functioning acinar tissue continues to secrete against a narrowed duct system resulting in retention of saliva in the intralobular ducts which then dilate.[2]

2. Globular sialectasis, in which the dilation of the peripheral ducts increases, but with uniform size and distribution (Fig. 7). It is at this stage that the sialographic findings of terminal duct dilation and lack of intraglandular branching correlate with the scarcity of interlobular ducts located in the septae of the gland and the wide lumens of intralobular ducts in the histologic sections.[2]

3. Cavitary sialectasis, in which there is coalescence of the globules, which now become irregular in size and distribution and decrease in number. These coalesced

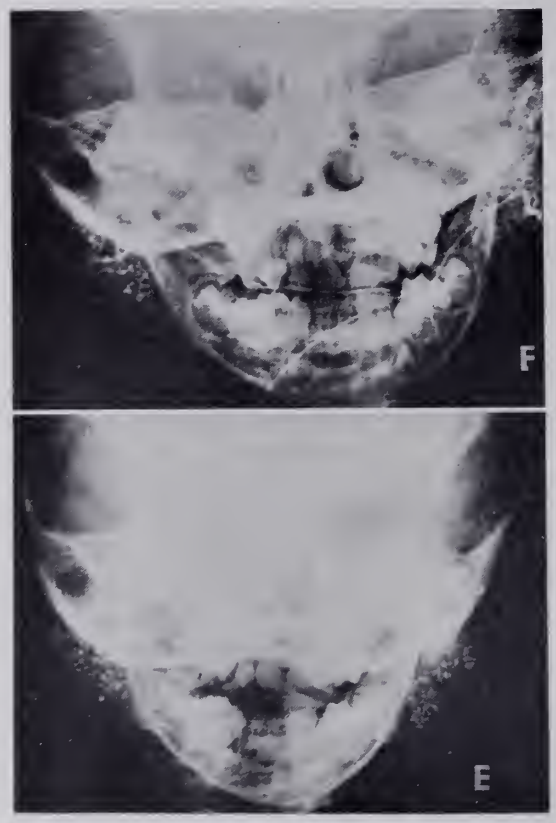


Figure 6.—Sialogram of recurrent pyogenic parotitis in children. The filling phase (top) demonstrates diffuse punctate dilation of the peripheral ducts and a striking decrease in the number of more proximal intraglandular ducts. In the five minutes postevacuation film (bottom) there is retention of contrast material in the dilated terminal ducts.

intralobular ducts continue to dilate and form cysts, resulting in the cavitary appearance noted on sialograms (Fig. 8).

4. Destructive sialectasis, the end stage, in which there is a bizarre pattern which suggests invasion and destruction of the gland parenchyma by neoplasm. Histologic sections support the roentgen findings in that there is no recognizable duct structure, because of lymphoid infiltration and fibrosis of diffuse areas of gland parenchyma. Differentiation from neoplastic disease can be made by demonstration of multiglandular involvement at this phase of sialectasis (Fig. 9).

The management of patients with sialectasis has included treatment with antibiotics, x-ray therapy and steroid hormones. The controversy regarding the



Figure 7.—Sialogram of Sjögren's syndrome. In the filling phase (top) the typical mulberry pattern of globular sialectasis is present. In the half hour postevacuation film (bottom) the scanty salivary flow observed clinically is verified by the unaltered appearance of the dilated peripheral ducts.



Figure 8.—Sialogram of recurrent pyogenic parotitis in adults. The above photo shows the filling phase. The parotid gland shows irregular cystic cavities replacing the normal duct pattern.



Figure 9.—A sialogram which demonstrates involvement of the submaxillary and parotid glands by nonobstrutcive sialodochiectasis in Sjögren's syndrome. The above photo shows the filling phase. The parotid gland architecture is bizarre and compatible with the destructive stage of sialectasis. The submaxillary sialectasis is of lesser degree.

true nature of the disease entities which comprise the sialectasis group should be resolved within the near future as investigation goes forward into the etiology and pathogenesis.

Other Inflammatory Diseases. Persistent, usually asymptomatic enlargement of the major salivary glands due to nutritional insult is being recognized with increasing frequency. This condition, which appears to involve the parotid glands in particular, is associated with disturbed nutrition [7-9] as seen in obesity; diabetes mellitus with liver disease; [10-11] achalasia and anorexia nervosa; [12] alcoholism with or without cirrhosis,[12-14] as well as inadequate diet due to poverty or custom. The nutritional insult may be continuing or remote. Patients so afflicted may have a watery, yet scanty salivary flow. The volume of pure saliva secreted in ml. per hour may be decreased.[15] Thus the mechanism which resists retrograde infection of salivary gland parenchyma by mouth organisms—i.e. normal salivary flow is impaired and episodes of suppuration may ensue.

Morphologic observations in the literature are few and conflicting. We have found repalcement of secreting gland parenchyma by adipose tissue.[16] The remaining acinar cells may be increased in size; [17] there may be prominence of zymogen granules and eosinophilic reaction of duct epithelium,[16] a finding associated with protein deficiency observed in the laboratory.[18] The histologic finding of fatty infiltration along with decrease in secreting gland parenchyma explains the diminution of total terminal (peripheral) duct mass noted on sialograms which are otherwise normal.

In addition to a review of the dietary history and evaluation for diabetes, alcoholism and liver disease, these patients should be examined by sialography and parotid biopsy so that more can be learned about this clinical entity.

The major salivary glands, particularly the parotids are also subject to involvement by the specific granulomata, although these are relatively uncommon. Boeck's sarcoid, actinomycosis and tuberculosis are the ones with which this author has had personal experience. Specific granulomata involving the parotid lymph nodes such as cat scratch fever and tularemia should not be confused with intrinsic parotid granulomata. In each instance there is usually a primary face or scalp lesion.

Lesions Extrinsic to the Major Salivary Glands

Tumors external to the major salivary glands are more often the cause of regional swelling about the angle and below the ramus of the mandible than are intrinsic salivary gland neoplasms. Inflammatory lymph nodes, metastatic adenopathy and lymphomas are frequently seen as painless masses in the cervicofacial region. Neoplasms derived from the neighboring tissues, any of which may be a potential cause of swelling are problems in differential diagnosis. These include neurofibroma, lipoma, lymphangio-

ma, chemodectoma, branchiogenic cysts and mandibular osteoblastoma. Masseter hypertrophy should also be considered.

Sialography can serve as a diagnostic aid in identifying inflammatory and neoplastic lesions adjacent but extrinsic to the salivary glands. The filling phase shows displacement, compression or distortion of the duct system by the adjacent extrinsic mass but the general architecture is preserved.[19] Evacuation of the contrast material is complete in the emptying phase (Fig. 10). This is the differential point between extrinsic and intrinsic salivary gland neoplasms, since the latter usually show retention of contrast material in post-evacuation films.

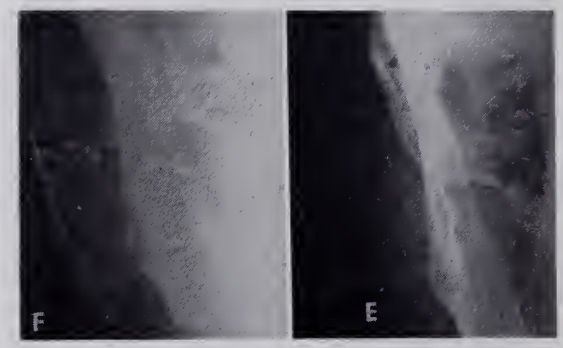


Figure 10.—Sialography in tumors external to the major salivary gland. In the filling phase there is a medial filling defect of the parotid gland. The postevacuation film indicates that the gland has emptied completely and is not involved.

Intrinsic Neoplasms

Neoplasms of the major salivary glands are principally confined to the parotid gland. The majority of parotid tumors are epithelial in origin and may be divided into benign and malignant types according to the classification [20] in Table 1.

The presence of a neoplasm in the parotid gland is usually rather obvious although its external manifestations will vary according to the position within the gland which it occupies. Thus a tumor originating in the pharyngeal prolongation of the parotid gland may assume considerable size and even produce bulging into the lateral angle of the pharynx before it causes significant external swelling back of the angle of the mandible and protrusion of the lobule of the ear.

TABLE 1
NEOPLASMS OF THE MAJOR SALIVARY GLANDS

Benign Epithelial Tumors

- I. Mixed tumors
  - 1. Stromal elements predominating
    - a. Cylindromatous type
  - 2. Epithelial elements predominating
    - a. Canalicular type
- II. Mucoepidermoid tumors
- III. Adenomas
  - 1. Serous cell
  - 2. Acidophilic cell
    - a. Papillary lymphoid cystadenoma

Malignant Epithelial Neoplasms

- I. Carcinomas
  - 1. Squamous cell carcinomas
    - a. Cornifying
    - b. Noncornifying
    - c. Lymphoepithelioma
  - 2. Gland-celled carcinomas
    - a. Pseudoadenomatous basal cell carcinoma-cylindromatous, canalicular or medullary, and cystic forms
    - b. Acidophilic gland-celled carcinoma
    - c. Serous cell adenocarcinoma
  - 3. Mucoepidermoid carcinoma
  - 4. Unclassified carcinoma

Purely clinical differentiation between benign and malignant parotid tumors is usually difficult preoperatively. Although pain is much more common in malignant tumors, the symptom cannot be relied upon for differential diagnosis. The only positive local sign of malignancy preoperatively, is facial paralysis. A benign tumor even of enormous size may produce great stretching and displacement of the facial nerve, but rarely, if ever causes paralysis. In general, it may be said that well encapsulated tumors are benign. The exception to the rule is the pseudoadenomatous basal cell carcinoma or the malignant cylindroma, a highly lethal though slowly growing tumor which may appear to be well encapsulated. Conversely, the nonencapsulated apparently infiltrating tumors are usually malignant but again an exception lies in the benign mucoepidermoid tumors whose surrounding inflammatory reaction gives the gross path-

ological impression of a widely infiltrating malignancy.

Sialography is a useful diagnostic aid in differentiating between intrinsic neoplasms, benign and malignant — in that generally speaking, the benign neoplasm is usually encapsulated or circumscribed whereas the infiltrating neoplasm is usually malignant. Utilization of the filling phase of sialography alone makes it diffi-

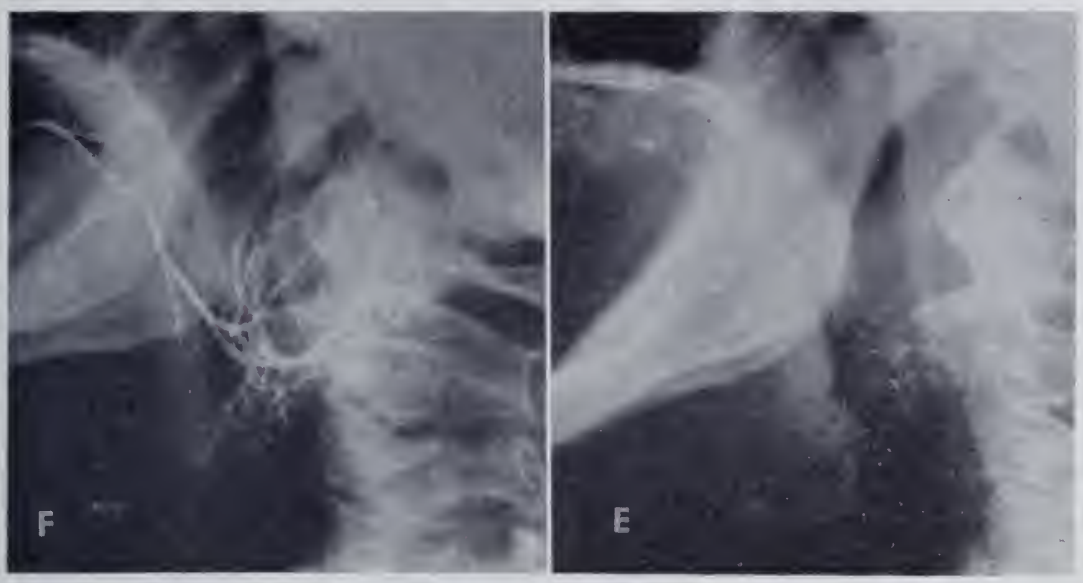


Figure 11.—Sialogram of an intrinsic circumscribed or encapsulated tumor. The filling phase (left) demonstrates a filling defect in the superior pole of the parotid gland with displacement of the gland inferiorly. There is slight dilation of the distal portions of the interlobar ducts.



Figure 12.—Sialogram of an intrinsic invasive tumor of the parotid gland. The filling phase (left) demonstrates a large mass in the right parotid gland displacing and altering the duct architecture. Following stimulation (right) the contrast material appears to have permeated the surrounding acinar tissue instead of being evacuated from the gland.

cult to distinguish extrinsic tumors from intrinsic circumscribed or encapsulated neoplasms in which the glandular architecture is also preserved. However, in the postevacuation films, retention of contrast material in distinguishing patterns is noted.[2, 4] The normal gland tissue is compressed between the slowly growing encapsulated or circumscribed neoplasm and the capsule of the gland. This results in patterns which are characterized by some segmental intraglandular duct retention (Fig. 11).

Infiltrating malignant neoplasms of the salivary glands may disrupt the glandular architecture and destroy the duct system. The acinar pattern is replaced by a bizarre puddling and pooling of contrast material (Fig. 12). The postevacuation phase shows virtually complete retention of the contrast material.[2, 4] It should be reiterated that these bizarre puddling and pooling patterns are indistinguishable from the radiographic picture of destructive sialectasis. The differential point lies in the fact that the other major salivary glands, exclusive of the one involved by a tumor, show the normal sialographic pattern. Certainly no attempt should be made to diagnose the histologic type of salivary gland neoplasm by sialography.

References

1. Rubin, P., Blatt, I. M., Holt, J. F. and Maxwell, J. H.: Physiological or Secretory Sialography. Ann. Otol., Rhinol., and Laryngol. 64:667, 1955.

2. Blatt, I. M., and others: Secretory Sialography In Diseases of the Major Salivary Glands. Ann. Otol., Rhinol. and Laryngol. 65:295, 1956.

3. Blatt, I. M. and Maxwell, J. H.: Secretory Sialography. Trans. Amer. Acad. Ophthal. and Otolaryngol. 61:492, 1957.

4. Blatt, I. M., Maxwell, J. H. and Magielski, J. E.: Sialography In Health and Disease. Chapter in Coates-Schenck-Miller Textbook of Otolaryngology. Hagerstown, W. F. Prior Co. 1958.

5. Furstenberg, A. C. and Blatt, I. M.: Intermittent Parotid Swelling Due To Ill-Fitting Dentures—An Entity; Its Diagnosis and Treatment. Laryngoscopy. 68: 1165, 1958.

6. Blatt, I. M., Denning, R. M., Zumberge, J. H. and Maxwell, J. H.: The Structure and Mineralogical Composition of Salivary Calculi; Studies in Sialolithiasis I. Ann. Otol., Rhinol. and Laryngol. 67:595, 1958.

7. Gillman, J., Gilbert, C. and Gillman, T.: Bantu Salivary Glands in Chronic Malnutrition With Brief Consideration Of Parenchyma-Interstitial Tissue Relationship. South African J. Med. Sci. 12:99, 1947.

8. Sanstead, H. R., Koehn, C. J. and Sessions, S. M.: Enlargement of Parotid Gland In Malnutrition. Am. J. Clin. Nutrition. 3:198, 1955.

9. Kanther, R.: Parotidenschwellungen Bei Inanitionsdystrophie. Atschr. Int. Med. 3:88, 1948.

10. Rothbell, E. N. and Duggan, J. J.: Enlargement of Parotid Gland In Diseases of Liver. Am. J. Med. 22:367, 1957.

11. Flamm, E.: Parotishypertrophie, ein Symptom des Diabetes Mellitus. Klin. 11:1704, 1932.

12. Blatt, I. M. and Maxwell, J. H.: To Be Published.

13. Wolfe, S. J., Summerskill, W. H. J. and Davidson, C. S.: Parotid Swelling, Alcoholism and Cirrhosis. New England J. Med. 256:491, 1957.

14. Bonnin, H., Moretti, G. and Geyer, A.: Les grosses parotides des cirrhoses alcoholiques. Presse Med. 62: 449, 1954.

15. Blatt, I. M.: Unpublished data.

16. Blatt, I. M.: Unpublished data.

17. McCance, R. A., Dean, R. F. A. and Barrett, A. M.: Enlargement of Parotid Glands In Great Britain. Med. Res. Council Studies of Undernutrition, Wuppertal, 1946-9. 404 pp. (Special Report Series No. 275.) London, Her Majesty's Stationery Office, 1951. pp. 135-139.

18. Luckner, H. and Scriba, K.: Die pathologie des Ernahrungsodems wahrend der Erkrankung, ihrer Entstehung und heilung; Tierexperimentelle Untersuchungen. Ztschr. Exper. Med. 103:586, 1938.

19. Blatt, I. M., Magielski, J. E., Maxwell, J. H. and Holt, J. F.: Secretory Sialography in Diseases External to the Major Salivary Glands, Ann. Otol. Rhinol. Laryngol. 68:175, 1959.

20. Buxton, R. W., Maxwell, J. H. and French, A. J.: Surgical Treatment of Epithelial Tumors of the Parotid Gland., Surg. Gynec. & Obst. 97:401, 1953.

Acute Chyloperitoneum; A Case Report*

• The authors give a review of the literature and report the fourteenth case of acute idiopathic chyloperitoneum.

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A SURVEY of the literature discloses 38 reported cases of acute chyloperitoneum of which 13 were thought to be idiopathic.[1-9, 11, 13] A recent case of idiopathic chyloperitoneum at Charity Hospital is added.

Although relatively infrequent, a number of cases of chylous ascites, some associated with chylothorax, have been reported since 1694 when Morton gave the classical description of this condition.[1] Extremely rare are those cases in which the presence of effused chyle in the peritoneal cavity is associated with acute onset of symptoms. Renner, as cited by Hoffman,[4] published in 1910 the earliest report of such a case. In 1954 Hoffman [1] presented a collection of 23 similar cases and added one of his own. He designated the condition as chyle peritonitis. While obstruction or trauma were the underlying factors in many of these cases, no etiology was found in 10 of the 24. Since Hoffman's report, 3 additional cases of acute idiopathic chyloperitoneum have been described.[1, 6, 9]

Nix et al [12] in 1957 reviewed 302 cases of chylothorax and chylous ascites, and analyzed 11 cases from Charity Hospital at New Orleans. Five of these involved the abdomen only, 4 involved the abdomen and the chest, and 2 involved the chest only. Since this report, 3 additional cases involving the abdomen and evidencing chronic symptoms were seen at this hospital. The first of these 3 cases was a 2 year old white female who had chylous ascites at the age of 2 weeks and was treated with multiple paracenteses. Follow-up of more than one year has shown no recurrence. The second patient, a 51 year old colored male with chylous ascites, evidently from tuberculosis, has been placed on antituberculosis therapy. The third case was a 34 year old colored male who was found to have 300 to 400 cc. of milky fluid in a hernial sac at the time of an inguinal hernioplasty. Two months following operation he died with metastases from a reticulum cell sarcoma. While there have been 14 cases of chronic chylous ascites at Charity Hospital, the subject of this report is the only patient found to have free chyle in the peritoneal cavity with acute onset of symptoms.

Case Report

H.N., a 47 year old colored male, was seen in the Admitting Room of Charity Hospital on October 20, 1959, complaining of pain in the stomach. He had been well until two days prior to admission when he experienced intermittent cramping epigastric pain associated with a desire to expel flatus. Later in the day the pain became constant and was described as a "dull tight feeling across the upper abdomen". By the morning of the second day the pain was much worse and radiated into the right lower quadrant. At this time soreness appeared at the base of the neck on the left. There was no history of any serious illness, and the patient had never been operated upon. He had always worked as a laborer.

Physical examination revealed a blood pressure of 150 systolic, 80 diastolic, pulse 84, respiratory rate 20, and temperature 99°F. He appeared to be in no acute distress but complained of abdominal pain. There was moderate tenderness over the left lower neck with a few palpable lymph nodes. The entire abdomen was

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tender, especially in the right lower quadrant and the epigastrium. There was referred rebound tenderness to the right lower quadrant. No palpable masses were present and peristaltic sounds were normal. There was tenderness in both costovertebral angles. A large hydrocele was present on the left.

Roentgenograms of the chest and abdomen were not revealing.

The hematocrit was 46%, white blood cell count was 6,700 with 70% polymorphonuclear leukocyte, 6% bands and 24% lymphocytes. Urinalysis was negative. Amylase was 181 units/100 ml., fasting sugar 84 mg/100 ml., blood urea nitrogen 14 mg./100 ml. Electrocardiogram was normal.

Admitting diagnosis was ruptured peptic ulcer versus ruptured appendix.

Within a few hours the pain and tenderness had become more localized in the right lower quadrant, and a presumptive diagnosis of acute appendicitis was made.

At operation 200 cc. of milky fluid were found in the peritoneal cavity and there were several dilated loops of small intestine. In addition, white patches were present within the small bowel mesentery and in the wall of the jejunum. No other abnormalities were noted. Appendectomy was performed, and the abdomen closed without drainage.

Smear of the abdominal fluid showed a few mesothelial cells and lymphocytes but no bacteria. A biopsy was taken of the lymph nodes at the base of the neck on the left and reported as nonspecific chronic lymphadenitis. Abdominal paracentesis one week after operation yielded 2 cc. of clear peritoneal fluid. The patient was discharged on a low fat diet to be followed in the outpatient clinic.

Discussion

There have been various views as to the action of chyle. Some have thought it to be bacteriostatic, and others have described chyle as an irritant in the peritoneal cavity.[4] Meade [10] mentioned the local effect of chyle on the pleura with loss of elasticity and deposition of a layer of exudate on the pleural surface. Freeman and Johnson [3] described the hemolytic action of chyle but gave evidence to show that fasting animals contained an insufficient amount of fatty acid to produce hemolysis. In the majority of reported cases of acute chyloperitoneum, symptoms have followed shortly after a heavy meal. This may be coincidental, yet it does suggest that symptoms are caused by lymph containing fatty acids.

The patient presented showed several features thought to be characteristic of chyle peritonitis. There was acute onset of pain following a large meal. When first examined, the patient was thought to have had a perforated ulcer or acute appendicitis. There was free chyle in the peritoneal cavity with subserosal plaques and edematous mesentery of the small bowel. The postoperative course was benign, and the patient received no specific therapy. The finding of lymphadenopathy and chronic lymphadenitis of the cervical nodes is of interest, but merely suggests that this could have been a contributing factor.

Treatment of chronic chylous ascites has usually consisted of repeated paracenteses and specific therapy directed toward the underlying condition. In acute chyloperitoneum, where the diagnosis is made at the time of operation, simple evacuation of the chyle and closure without drainage has been adequate treatment. This method has been successful in all but one reported case.[4] Postoperatively, the majority of patients have been placed on low fat diets.

Whether acute chyloperitoneum is an entity is not known. The association with such things as intestinal obstruction, trauma, and congenital lymphatic anomalies, would suggest that it is simply one manifestation of several different underlying pathological processes. The explanation for the idiopathic variety obviously may be that the etiology has remained obscure. That it is related to heavy ingestion of fatty foods in some way is possible but not proven. The cause of acute symptoms is not definitely known.

Summary

1. The fourteenth case of acute idiopathic chyloperitoneum is presented.

2. The diagnosis of this condition is made at the time of operation, the typical findings being free chyle in the peritoneal cavity, subserosal plaques in the small bowel, and a thickened small bowel mesentery.

3. While the role played by the chyle in the production of the acute symptoms is unknown, it has been shown that chyle has a hemolytic action probably due to free fatty acids.

4. Treatment consists of evacuation of the chyle. Drainage is probably not necessary.

5. Prognosis in this condition has been good.

References

1. Butcher, Thomas P. and Ryan, Edward J.: Acute idiopathic chyloperitoneum, Am. Surgeon 24:301, 1948.

2. Davis, Carl, Jr., Young, K. C. and Kirby, William J.: Chyle peritonitis with acute small bowel obstruction, Surgery 38:393, 1955.

3. Freeman, Willard L. and Johnson, Victor: The hemolytic action of chyle, Am. J. of Physiol. 130:723, 1940.

4. Hoffman, William: Free chyle in the acute abdomen: So-called chyle peritonitis, Collective Review, Internat. Abstr. Surg. 98:209, 1954.

5. Hoffman, William: Free chyle in the chest and abdomen, New York J. Med. 57:1611, 1957.

6. Koskinen, Erkki V.: Acute spontaneous chylous peritonitis, Ann. Chir. et gynaec. Fenniae. 47:103, 1958.

7. Lawton, R. L.: Incarcerated inguinal hernia with chylous ascites, Surgery 41:306, 1957.

8. Lerrick, Alan and Anfses, Arthur H.: Spontaneous chylous peritonitis, Ann. Surg. 142:124, 1955.

9. Madding, Gordon F., McLaughlin, Richard F. and McLaughlin, Richard F., Jr.: Acute chylous peritonitis, Ann. Surg. 147:419, 1958.

10. Meade, Richard H., Head, Jerome R. and Moen, Chester W.: The management of chylothorax, J. Thoracic Surg. 19:709, 1950.

11. Morales, M. N., Crebe, A. S., Creves, A. F.: Acute chyle peritonitis; a case report, Philippine J. Surg., Obstet. & Gynec. 11:92, 1956.

12. Nix, J. T., Albert, Matthew, Dnga, J. E. and Wendt, D. L.: Chylothorax and chylous ascites; A study of 302 selected cases, Am. J. Gastroenterology, 28:40, 1957.

13. Walker, J. C.: Acute chylous peritonitis, Lancet, 1:83, 1956.

Women as Physicians

There is nothing like logic of facts. To it all theories must be brought and tested. It is vain to attempt to escape its verdict.

The question whether women are calculated to be successful in the profession has been debated vigorously. Now is the time we can ask, **have they been** successful? The record is before us and open for inspection.

The Valedictory Address of Dr. Rachel L. Bodley, Dean of the Woman's Medical College of Philadelphia, placed this matter before her hearers. Her theme was a statement of the work accomplished by their Alma Mater in the thirty years of the existence of the College, as exemplified by the professional careers of her 276 daughters sent out as medical graduates during that time. To enable herself to speak with precision, Dr. Bodley sent to each of the 244 surviving graduates a circular containing eight questions in the practice of their life work. * * * its professional character; its pecuniary rewards; its social status; its teaching work; its membership in medical societies, and finally that important question in sociology touching the influence of the study and practice of medicine upon woman's relation as wife and mother.

* * *

The fifth question relates to the monetary value of the medical practice per year, and is answered by 76 ladies.

24 as much as $1,000, and less than $ 2,000
20 as much as $2,000, and less than $ 3,000
10 as much as $3,000, and less than $ 4,000
5 as much as $4,000, and less than $ 5,000
3 as much as $5,000, and less than $15,000
4 report sums varying from $15,000 to $20,000 per year.
10 report less than $1000 per year.

New Orleans M. & S. J. 8:222 (Sept.) 1881

Cat-Scratch Disease--Another Cause Of Parinaud's Oculoglandular Syndrome

• The author describes three cases of this disease, which is becoming more generally recognized.

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New Orleans

SINCE 1889, when Parinaud first described the oculoglandular syndrome, it has been steadily broken down into its component diseases. The newest etiological agent to be described is the virus of cat-scratch fever. The purpose of this paper is to present two well documented cases of the syndrome complete with antigenic and pathological studies. No attempt to review the literature or describe the disease will be made, as reference to the bibliography will suffice.

Case Presentations

Case No. 1.—D. P., a white male, aged 15, was seen complaining of a mass under the right upper lid of one and a half weeks' duration. Fever (undetermined) had been present the first three days, and a right preauricular node appeared one week previously. Five weeks before, patient had had contact with a tuberculous patient. He had played frequently with pet cats at home. None were ill, but two months previously a pet white mouse became ill, showing blindness, deafness and enlarged neck and groin glands. It was killed by the Society for the Prevention of Cruelty to Animals. The patient's brother has Pott's disease.

Examination revealed a mushroom shaped mass 4 by 4 by 1 mm. under the right upper lid, attached laterally near the upper border of the tarsal plate by a base 0.5 cm. in diameter. This mass, composed of rather solid homogenous reddish tissue, was not ulcerated. A mild mucopurulent conjunctival discharge was present, as well as local conjunctival inflammation. The enlarged preauricular node (1 by 1 by 1.5 cm.) was not tender or fluctuant.

During hospitalization the following tests were done:

X-ray chest—negative.

Sed. rate 24 mm., Hb. 12.5 (79.4 gm.). RBC 4,100,000, Color Index (bld. .96). WBC 5,350 (Neut. 55, Eosin, 3, Lymphs. 39, Monos. 3).

Urine—negative.

Agglutinations: Typhosus 0 & H, Para A and B, Brucella, Proteus X-19, all negative 1:40.

Glucose 97. NPN 27.

Wassermann and VDRL—negative.

Conjunctival smear for AFB and fungi—negative. Conjunctival smear for fusiform bacilli—negative, with crystal violet. Conjunctival smear for Spirochetes (ink preparation)—negative. Routine conjunctival smear and culture — negative twice.

Agglutinations for tularemia—negative 1/20.

Dark Field—negative for spirochetes from conjunctival lesion.

Conjunctival smear for eosinophiles—negative.

Scrapings from eye lesion and conjunctiva (Wet mount no fungi) and fungus culture—negative.

A complete general physical examination was entirely normal, except for ophthalmological findings, enlarged preauricular node, enlarged axillary nodes and shotty posterior cervical adenopathy.

Only one fever spike to 101.6° was noted in 2 five day hospital stays.

Differential Diagnoses

It may be interesting to note the differential diagnoses considered by three physicians involved:

A. Internist.
   1. Non-specific conjunctivitis with adenopathy.
   2. Boeck's Sarcoid.
   3. Lymphoma—leukemia.
   4. Tuberculosis.
   5. Cat-scratch Disease.

B. Consulting Ophthalmologist.
   1. Tularemia.
   2. Vernal Catarrh.
   3. Cat-scratch Disease.
   4. Leptothrix conjunctivitis.

C. Ophthalmologist.
   1. Cat-scratch Disease.
   2. Tularemia.

3. Tuberculosis.
4. Sporotrix—Leptothrix.
5. Agricultural conjunctivitis.
6. Beal's conjunctivitis.
7. Conjunctivitis due to *Micrococcus polymorphicus necroticans* of Pascheff.

Biopsy

The entire polypoid mass was shaved from the conjunctiva as a biopsy. The following report was received:

Microscopic Description:

"Sections show a polypoid piece of tissue covered by benign squamous epithelium. It consists of many newformed blood vessels with an inflammatory infiltrate as seen in pyogenic granuloma. Schiff stains are negative for fungi."

Diagnosis: Pyogenic granuloma.

Cat-scratch antigen * was obtained and skin test gave a positive reaction with a hard red central papule and a zone of erythema extending out 1½ inches. The preauricular node was almost normal size at that time, and the conjunctival lesion healed.

Case No. 2.—P.L., white female, aged 12, complained of a right preauricular node having formed ten days previously. Two days later submaxillary nodes on the right began to swell and eight days later a conjunctival ulcerative lesion was discovered. There had been no fever. As pets, the patient had a parakeet, 2 dogs, a cat, and a snake.

The patient was hospitalized and a general examination was noncontributory, except for the enlarged nodes and conjunctival lesion. No fever was noted. The following laboratory tests were performed:

X-ray chest—negative.

Cat-scratch test strongly positive at forty-eight hours.*

Tuberculin test 1:10,000—negative.

Histoplasmin skin test—negative.

Biopsy showed the conjunctival lesion to be diffusely infiltrated with lymphocytes, plasma cells and neutrophiles. No tubercles were seen. Sections of cervical node showed a severe chronic granulomatous lymphadenitis with large collections of neutrophiles surrounded by a thick zone of macrophages, epitheloid cells, and plasma cells. Schiff and acid fast stains—negative for AFB and fungi. Diagnosis: Chronic granulomatous conjunctivitis with cervical adenitis.

Culture of conjunctival scrapings — negative for AFB four times.

Routine S & C—negative OD.

Agglutinations — Brucella — negative (1/40). Heterophile—negative (1/7). Tularemia—negative (1/20).

Kolmer and Kahn negative.

Blood Glucose, 130. NPN, 28.

Hb. 13.0 (83.2%), RBC 4.3 million. Color index .96.

WBC 7,950, Neutrophils 60, Eosinophils 2, Lymphocytes 36, Monocytes 2.

Urine negative.

Conjunctival culture O.V.—negative twice.

Lymph node S & C—negative twice.

Lymph node anaerobic culture—negative.

Lymph node smear—negative AFB.

Case No. 3.—Simultaneously the brother of the patient developed right axillary adenopathy with subsequent suppuration. Test with cat scratch antigen was positive. There were no ocular findings.

Conclusions

Another etiological agent causing Parinaud's oculoglandular syndrome is presented along with 3 case reports. Cognizance of this agent will result in more accurate diagnosis of this self-limited disease.

References

1. Henry, Margaret: Oculoglandular Conjunctivitis Due to Streptothrix, J. Ped. 37:535 (October) 1950.

2. Cassidy, D. V., Culbertson, C. S.: Cat Scratch Disease and Parinaud's Oculoglandular Syndrome. Arch. Oph. 50:68-74 (July) 1953.

3. Editorial: Cat Scratch Disease and Parinaud's Oculoglandular Syndrome. J.A.M.A. 152:1717 (August) 1953.

* Antigen supplied by Drs. W. B. Daniels and F. G. MacMurray.

The Journal of the Louisiana State Medical Society

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Editorial

Benjamin Franklin On Politics And Economics

Two hundred years ago, the efforts of government to neutralize the effects of economic laws by legal actions brought forth the displeasure and censure of Benjamin Franklin. Of all the men in the remarkable group among whom he worked he "embodies more and more characteristic qualities which we have agreed to call American than does any other public figure."

The following excerpts from a Benjamin Franklin essay "On the Price of Corn and Management of the Poor" are as pertinent now as they were when written.

"To the Public"

"I am one of that class of people, that feeds you all, and at present is abused by you all; in short I am a farmer.

"By your newspapers we are told, that God has sent a very short harvest to some other countries of Europe. I thought this might be in favour of Old England; and that now we should get a good price for our grain, which would bring millions among us, and make us flow in money; that to be sure is scarce enough.

"But the wisdom of government forbade the exportation.

"'No'; says my lords the mob, 'you shan't have that. Bring your corn to market if you dare; we'll sell it for you for less money, or take it for nothing.'

"Being thus attacked by both ends *of the constitution*, the head and tail of *government*, what am I to do?

"Must I keep my corn in the barn, to feed and increase the breed of rats? Be it so; they cannot be less thankful than those I have been used to feed."

"Now, if it be a good principle, that that the exportation of a commodity is to be restrained, that so our people at home may have it the cheaper, stick to that principle, and go through-stitch with it. Prohibit the exportation of your cloth, your leather, and shoes, your iron ware, and your manufactures of all sorts, to make them cheaper at home. And cheap enough they will be, I will warrant you; till people leave off making them."

"You say, poor labourers cannot afford to buy bread at a high price, unless they

had higher wages. Possibly. But how shall we farmers be able to afford our labourers higher wages, if you will not allow us to get, when we might have it, a higher price for our corn?"

"But it seems, we farmers must take so much less, that the poor may have it so much cheaper.

"This operates, then, as a tax for the maintenance of the poor. A very good thing you will say. But I ask, Why, a partial tax? Why laid on us farmers only? If it be a good thing, pray, Messieurs the Public, take your share of it, by indemnifying us a little out of your public treasury. In doing a good thing, there is both honour and pleasure; you are welcome to your share of both.

"For my own part, I am not so well satisfied of the goodness of this thing. I am for doing good to the poor, but I differ in opinion about the means. I think the best way of doing good to the poor, is, not making them easy *in* poverty, but leading or driving them *out* of it. In my youth, I travelled much, and I observed in different countries, that the more public provisions were made for the poor, the less they provided for themselves, and of course became poorer. And, on the contrary, the less was done for them, the more they did for themselves, and became richer. There is no country in the world where so many provisions are established for them; so many hospitals to receive them when they are sick or lame, founded and maintained by voluntary charities; so many almshouses for the aged of both sexes, together with a solemn general law made by the rich to subject their estates to a heavy tax for the support of the poor. Under all these obligations, are our poor modest, humble, and thankful? And do they use their best endeavors to maintain themselves, and lighten our shoulders of this burthen? On the contrary, I affirm, that there is no country in the world in which the poor are more idle, dissolute, drunken, and insolent. The day you passed that act, you took away from before their eyes the greatest of all inducements to industry, frugality, and sobriety, by giving them a dependence on somewhat else than a careful accumulation during youth and health, for support in age or sickness.

"In short, you offered a premium for the encouragement of idleness, and you should not now wonder, that it has had its effect in the increase of poverty. Repeal that law, and you will soon see a change in their manners. *Saint Monday* and *Saint Tuesday will soon cease to be holidays. Six days shalt thou labour,* though one of the old commandments long treated as out of date, will again be looked upon as a respectable precept; industry will increase, and with it plenty among the lower people; their circumstances will mend, and more will be done for their happiness by inuring them to provide for themselves, than could be done by dividing all your estates among them.

"Excuse me, Messieurs the Public, if, upon this *interesting* subject, I put you to the trouble of reading a little of *my* nonsense. I am sure I have lately read a great deal of *yours,* and therefore from you (at least from those of you who are writers) I deserve a little indulgence.

"I am yours, &c ARATOR"

The Autobiography of Benjamin Franklin & Selections from His Other Writings, The Modern Library, Random House, Inc. 1950, New York.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

FIVE REASONS WHY MEDICINE IS OPPOSED TO FORAND-TYPE LEGISLATION

1. It is totally unnecessary. The Kerr-Mills Law will do the job.

2. It would mean poorer, not better health care for the aged, with government employees telling doctors what drugs and treatment they could provide their patients; telling hospitals how to operate; telling nursing homes what they could and could not do.

3. It would lead to the decline, if not the end, of private health insurance, which has made such great strides in recent years.

4. It would mushroom into compulsory national health insurance for every American, as time went by. What would start out as socialized medicine for the aged would eventually become socialized medicine for every man, woman and child in the country.

5. It would be staggeringly expensive. Social Security taxes are already scheduled to reach nine per cent of payroll by 1969. This would increase them further. It is well to remember that such bills as these are irreversible in nature. Once started—like an avalanche—they are hard to stop. The tendency is to expand them—never to contract them. As time went on, Congress would face continual pressure for more extended coverage and more elaborate benefits. Costs would rise proportionately.

FIVE REASONS WHY THE KERR-MILLS LAW MERITS PUBLIC SUPPORT

1. The Kerr-Mills Law provides legislation under which it is possible for the first time to help **every** aged American who needs help to pay for health care. Its benefits, based on need and local determination, are much broader than under proposed Forand-type legislation.

2. The program is voluntary, not compulsory. It will supplement, not supplant, individual voluntary health insurance or prepayment.

3. It will be administered on a local basis. The Kerr-Mills Law leaves matters up to the States by giving them the right to set up their own programs in their own way, on the logical theory that each State knows its own particular problem better than the Federal Government does.

4. The new law is economical. Local administration, local choice of scope of benefits and method of payment, local definition and determination of eligibility, minimum Federal control — all these mean that our tax dollars will be spent to best advantage. The use of this approach not only guarantees that we will be helping those who need help, but that we will not be wasting tax dollars on help for those who are perfectly willing and able to take care of their own health costs. And there are millions of these people.

5. The quality of medical care under such a plan will be infinitely superior to that possible under a Forand-type approach. Under the new law, any type of care can be provided if the State determines the need for it. Under the Forand Bill, only hospitalization, nursing home care, and some surgical care would be authorized. Further, the fact that Federal controls are held to a minimum allows adequate supervision of the program by physicians, and no restraints upon the doctor in the exercise of his medical judgment. The medical profession's basic policy has always been to insure that the needy receive the same high quality of medical care as anyone else in the community. Under the Kerr-Mills Law, this can and will be accomplished, whereas it could not be under the restrictions imposed by Forand-type legislation.

FOR THE INFORMATION OF OUR MEMBERS

Those who favor the unsound and dangerous Forand Bill are now exerting a concerted effort to pass, with President Kennedy's support, some Forand type legislation controlled and operated under Social Security regulations with Social Security taxes. Under this plan an agency of the Federal Government operating out of Washington, D. C., would cover millions of people who neither need nor want government help under a system of compulsory national health insurance.

This approach was considered at the last Congress and soundly rejected. However, its backers are not willing to give the Kerr-Mills Bill duly enacted by the last Congress a chance to prove its effectiveness in taking care of our oldsters who really need and want help for their medical care.

Representative Aime Forand (D-R.I.), father of the Social Security medical plan bearing his name, is quoted in the January 12 Chicago Daily News as saying, "If we can only break through and get our foot inside the door, then we can expand the program after that."

The Forand type legislation was defeated in the last Congress by the vigorous campaign waged by the medical profession and its loyal allies. If it is still our wish to keep this country free from socialized medicine, we must again wage a most vigorous and united campaign against this vicious legislation, which if enacted into law will eventually and completely socialize not only the medical profession, but all of our professions.

The Forand type legislation implemented and financed under the Social Security system would provide only limited health care of inferior character to only a limited number of our old people. This service would not be available to millions of our older citizens who need medical services.

It is the duty of every physician, if he hopes to continue to practice medicine under a free enterprise system, to write his Congressman and Senator stating his or her opposition to any Forand type legislation including medical care under the Social Security system. Give reasons for your opposition: It would mean federally controlled medicine of poor quality. There would be a marked reduction of private health insurance which has done so much for the protection of our citizens during the past few years. Increasing numbers of our people have availed themselves of this source of protection. The cost of implementation will be almost prohibitive. It is estimated that by 1969 Social Security taxes will reach 9% of the payroll, and will continue to increase as more expanded benefits are offered. Costs would continue to rise as Congress is pressured into extended coverage and more elaborate benefits.

Such legislation is wholly unnecessary and will not cover, as stated above, millions of our citizens who really need medical service and great numbers of our citizens who do not need it and do not want it will be forced to take it because it is a compulsory federal program.

The Kerr-Mills law already prepared by Congress is a voluntary service and will do the job better and cover more patients who need this service than the governmental compulsory and socialistic Forand type legislation which the new administration in Washington is trying to force on our old citizens.

GOOD NEWS IS SO SELDOM RECEIVED

Our attorneys have just notified us that the Court of Appeal, State of Louisiana, has refused to grant a rehearing to the Chiropractors in their suit to declare our Medical Practice Act unconstitutional.

Their next move, we presume, will be to appeal the case to the State Supreme Court. Since this Court has, on other occasions, held this Act to be constitutional, we are hopeful that this litigation will be closed at an early date, and that the Board of Medical Examiners will be freed from the injunction which has prohibited further prosecution, and will be free to again prosecute these offenders in the State Courts.

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

SOUTHERN REGIONAL MEETING OF THE AMERICAN COLLEGE OF GASTROENTEROLGY

The Southern Regional Meeting of the American College of Gastroenterology will be held in Houston, Texas on Sunday, 19 March 1961. The sessions, which will be held in the Jesse H. Jones Library Building of the Texas Medical Center, will commence at 9:00 a.m.

Participating in the program will be among others, W. C. Arnold, M.D., Robert Nilson, M.D., George Morriss, M.D., and Bela Halpert, M.D., F.A.C.G., Houston, Texas; H. J. Robert, M.D., Palm Beach, Florida; Henry Laurens, M.D., A. C. Broders, Jr., M.D., Temple, Texas. The Houston Gastroenterological Society will be the host for this meeting.

The program is under the Chairmanship of Ralph D. Eichhorn, M.D., F.A.C.G., Houston, Texas and H. B. Eisenstadt, M.D., F.A.C.G., Port Arthur, Teaxs, Governor of the College for Texas.

The Southern region consists of the states of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Virginia.

Members of the medical profession are cordially invited to attend. A copy of the program may be obtained from the Secretary, American College of Gastroenterology, 33 West 60th Street, New York 23, N. Y.

CHEST PHYSICIANS ESTABLISH FUND TO ASSIST CUBAN MEMBERS

At the meeting of the Board of Regents of the American College of Chest Physicians held in Washington, D.C. on November 28, 1960, a resolution was adopted to establish a relief fund for Cuban members of the College who have been exiled temporarily from their country. The Board of Regents voted to contribute $5,000 to launch the fund and contributions are being solicited from College members and others who are interested. The Cuban Chapter of the College was founded in 1940 and now has 74 members.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next scheduled examination (Part II), oral and clinical for all candidates, will be conducted at the Edgewater Beach Hotel, Chicago, Illinois, by the entire Board from April 8 through 15, 1961. Formal notice of the exact time of each candidate's examination will be sent him in advance of the examination dates.

Candidates who participated in the Part I Examination will be notified of their eligibility for the Part II Examinations as soon as possible.

Current Bulletins of the American Board of Obstetrics and Gynecology, outlining the requirements for application, may be obtained by writing to Robert L. Faulkner, M.D., Secretary, 2105 Adelbert Road, Cleveland 6, Ohio.

WESTERN REGIONAL MEETING OF THE AMERICAN COLLEGE OF GASTROENTEROLOGY

The Western Regional Meeting of the American College of Gastroenterology will be held in San Francisco, Calif. on Sunday March 5, 1961. The sessions, which will be held at the Fairmont Hotel, will commence at 9:00 a.m.

Participating in the program will be Dwight L. Wilber, M.D., Kahn Uyeyama, M.D., Hugo C. Moeller, M.D., Warren C. Breidenbach, M.D., all of San Francisco, Calif.; Raymond M. Kivel, M.D., Palo Alto, Calif.; Donald C. Collins, M.D., F.A.C.G., Hollywood, Calif.; and Roger C. Simpson, M.D., San Francisco, Calif.

The program is under the Chairmanship of Samuel W. Yabroff, M.D., F.A.C.G., Oakland,

Calif., Governor of the College for Northern California.

The Western region consists of the states of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming.

Members of the medical profession are cordially invited to attend. A copy of the program may be obtained from the Secretary, American College of Gastroenterology, 33 West 60th Street, New York 23, N. Y.

ANNUAL MEETING, LOUISIANA CHAPTER
American College of Chest Physicians

The Louisiana Chapter of the American College of Chest Physicians will sponsor a series of case presentations at its annual meeting at the Veterans Administration Hospital, New Orleans, March 10. Cases will be presented by the following physicians: Page Acree, Baton Rouge; Oscar Alvarez, Lafayette; William Fey, Lake Charles; Walter McCook, Shreveport; and Zoltan Mann, Alexandria. The following New Orleans physicians will serve as panel consultants for the case presentations: Oscar Blitz, Howard A. Buechner, Charles Dunlap, Leo Horan, Sydney Jacobs, Charles Nice, Robert Schramel, John H. Seabury, Lawrence H. Strug, Morton Ziskind, and Herman J. Moersch, Chicago, Illinois.

There is no registration fee and all physicians are invited to attend the meeting.

2 NEW ADVISORY MEMBERS APPOINTED AT BANK OF LOUISIANA

The appointment of two businesses and professional leaders to the advisory committee to the Bank of Louisiana in New Orleans is announced Wednesday, February 1, 1961 by James F. Quaid, president.

Leonard J. Elmer, president Elmer Candy Co., Inc. and Dr. John S. Salatich, both of New Orleans, are the new members of the advisory committee.

Elmer is a member of the National Confectioners Association and has been in the candy business practically all his life. His Elmer's candies are one of the better known national brands. He is a past officer and board member of the New Orleans Athletic Club, and has always been actively engaged in other business, civic and social organizaitons.

Dr. Salatich is in the private practice of internal medicine and is chief admitting physician of Charity Hospital of Louisiana in New Orleans. He received his bachelor of science degree from Loyola University of New Orleans in 1946, and his doctor of medicine from Louisiana State University in 1950. Dr. Salatich is a member of the American Medical Association, Louisiana State Medical Society, Orleans Parish Medical Society, and the American College of Physicians.

SOUTHWESTERN SOCIETY OF NUCLEAR MEDICINE

This Society will hold its Sixth Annual Meeting in Oklahoma City, April 8-9, 1961, at the Ramada Inn, under the presidency of Dr. Samuel B. Nadler of New Orleans.

Inquiries concerning this meeting should be addressed to Dr. Peter E. Russo, Program Chairman, 1200 North Walker, Oklahoma City. Doctors and individuals interested in this field are cordially invited to attend. The annual banquet will be held Saturday evening, April 8.

ANNOUNCEMENT

The SCOTT AND WHITE CLINIC announces its NINTH ANNUAL POSTGRADUATE CONFERENCE in **Medicine and Surgery** to be held in Temple, Texas on March 5, 6, 7, 1961. Practical aspects of medicine and surgery will be presented through clinics and open discussions:

CREDIT through the University of Texas Postgraduate School of Medicine to the Academy of General Practice.. ....18 hours.

Registration Fee — $25.00.

Wives are cordially invited.

Please write for further information.

BOOK REVIEWS

Rudolph Matas — A Biography of One of the Great Pioneers in Surgery; by Isidore Cohn, M. D., with Hermann B. Deutsch. Garden City, New York, Doubleday & Company, Inc., 1960. pp. 431; illus. 24. Price $5.95.

The timing of this biography is noteworthy, in marking the birth centennial of its distinguished subject whose life spanned ninety-seven years of the century. Rudolph Matas died in 1957. But the challenge and inspiration of his life will survive through generations, thanks to the devoted work of Dr. Isidore Cohn and his able collaborator, Mr. Hermann B. Deutsch.

Fifty-four years of close association with Dr. Matas in professional relations (first as a student), and in intimate friendship as well, eminently qualify Dr. Cohn for undertaking the biography. In addition to his personal observations of Dr. Matas, Dr. Cohn has had at his disposal a wealth of revealing source materials,

among them diaries and correspondence entrusted to him by Dr. Matas.

In the preface, Dr. Cohn states: "Years ago, when I first suggested that I be allowed to be his biographer, he demurred because, as he explained it, 'you would be too partial.'" The later placing of confidence in the prospective biographer was fully justified; I say this with knowledge of Dr. Matas gained by my own contacts with him through thirty-seven years. The biography is not partial, for it is not distorted by Dr. Cohn's feeling of affection and his admiration of this teacher, colleague, and friend. Weaknesses are not glossed over and strengths are not magnified; the account is impressively objective. The five-page appendix may be mentioned as an illustration of restraint. These pages are devoted to a simple listing of the numerous recognitions accorded to Dr. Matas in the form of degrees, honorary awards, foreign decorations, and official positions in medical societies. Each entry is only the symbol of a chapter that might have been written.

The volume presents an even, well-rounded life story that gives insight into the facets of Dr. Matas that had been unknown even by many who were well acquainted with him. It presents him not alone as a man of medicine but as boy, youth, and man in his individual pattern of human existence. The writing is vivid and compelling in interest. As we read, Dr. Matas seems to live again. We hear him exclaiming "Confusion" in some trying situation and muttering "My, my, my" while deliberating on it; we hear him again in prolonged discussion of a program paper, often contributing more to the subject than did the original speaker. We see him again, an imposing figure, wholly engrossed in attentive listening, or in speaking, or in doing —always oblivious to the passing of time.

Rudolph Matas was a Louisianian by birth and by virtual life-time residence. He was born, in 1860, on a plantation near New Orleans where his father Narciso, served as physician. His parents, both Spaniards, had left their home country for Louisiana shortly after their marriage in 1856. Narciso Matas had an urge to leave Gerona because of its associations with his dead mother, and his choice of destination was prompted by family ties in New Orleans. Narciso Matas, then not yet twenty years of age, had an adventurous spirit; he welcomed new opportunities wherever they might lead him. He retained that spirit throughout his life. His first venture in New Orleans was the operation of a pharmacy, but within a year he enrolled in the New Orleans College of Medicine, wherein he earned two degrees: the Doctor of Pharmacy in 1858 and the Doctor of Medicine in 1859. Dr. Narciso Matas was a man of many enterprises, including activities in business as well as in the profession. His preoccupations left scant time for attention to the little son Rudolph, who was four years old when he first had really intimate association with the father. At this time Dr. Narciso Matas, with his family, journeyed to Paris for special studies in ophthalmology; here the boy was in a medical environment. The father's fellow students often gathered in the apartment for "shop talk" and for practice in ocular surgery, using eyes from the abbatoir. Rudolph, to the pride of his father, learned some of the anatomical features of the eye. One can only conjecture as to whether these early experiences, including the new paternal understanding, may have influenced the channeling of his eventual choice of career. At any rate, this period is worthy of note because it showed emergence of some of the qualities of his manhood, perceptiveness and exceptional memory.

The four-year-old Rudolph was precocious, and as teen-ager and young man his accomplishments seemed always advanced for his age. His elementary and secondary schooling was interrupted and migratory. His education at the Medical Department of the University of Louisiana (later the School of Medicine, Tulane University) began when he was seventeen and he became Doctor of Medicine before reaching the age of twenty. The early schooling and the professional schooling as well, the latter characteristic of that time, would not have equipped any ordinary person for what he was destined to accomplish.

Rudolph Matas was no ordinary person. His endowments were exceptional, among them great physical vigor, to which he often referred as a cherished inheritance; outstanding intellectual vigor; perceptiveness; phenomenal memory; thoroughness and tenacity of effort on the task at hand. His capital in assets such as these yielded a maximum return because he abhorred time-wasting; he curtailed hours of sleep and made every waking hour productive.

At the age of seven, in an epidemic year when 3107 residents of New Orleans died of yellow fever, Rudolph Matas contracted the dread disease. The immunity thus acquired not only protected him during subsequent New Orleans epidemics but was of particular value when, still a medical student, he spent three months in Havana as a member of the Yellow Fever Commission that sought to discover how the infection is transmitted. The Commission did not solve this problem but it laid groundwork, in large part through Matas' energetic investigations, that served a bit later to substantiate Dr. Carlos J. Finlay's demonstration of the role of the mosquito in passing the agent of disease from an infected person to another. Dr. Finlay needed support in a day when erroneous theories of the causative factor

were strongly entrenched. Support came from a very young man!

The apt subtitle of this book refers to Dr. Matas as "one of the great pioneers in surgery." Dr. Matas was a pioneer in various undertakings, as in the yellow fever studies just mentioned, though his contributions to surgery were the chief basis of his world-wide fame. One of his early cases stands out as a clear landmark, a "first" in a long record of vascular surgery. The patient had an aneurism of the brachial artery, and in performing the surgery Dr. Matas introduced a novel suture technique in a procedure later called "the Matas operation." This distinct advance was made when he was only about 28 years of age, again illustrating capacities that characterized his long career.

Dr. Matas had close ties with the Tulane School of Medicine. An alumnus, and the most distinguished of all, he served in part concurrently as Demonstrator of Anatomy and Instructor in Surgery from 1885 to 1894, when he was appointed Acting Professor of Surgery. In 1895 he became Professor and Head of the Department of Surgery. On reaching the age of university retirement, in 1927, he was named Emeritus Professor. The library of the School, which held his active interest to the last, has borne his name since 1937: The Rudolph Matas Medical Library.

Dr. Matas was much more than surgeon—scholar of broad interests, humanitarian, a man whose simple ways were a mark of his true greatness. His personal life, like other lives, was not entirely serene. The parents were ill-matched, hence the early family environment was marred. As years passed, his mother showed her true colors as a virago and his sister turned into a vixen—yet he held them in affection. The only child of his marriage was stillborn. For a half-century, Dr. Matas was a "cyclopean," as he termed his state after an eye had to be removed because of an operating-room infection. Trials such as these, along with the happinesses and accomplishments of a long and richly productive life, are set before us in this work.

A bronze portrait plaque in Touro Infirmary was dedicated to Dr. Matas in 1941 as a token of appreciation, in particular for his long service as Chief Surgeon (1906-1935; Emeritus Chief Surgeon, 1935-1957). The plaque carries an inscription: "Your example will remain a tradition and a spiritual legacy to immortalize your fame." The biography is a full and honest recording that will perpetuate the benefits of this example.

HAROLD CUMMINS, PH.D.

Medieval and Renaissance Medicine; by Benjamin Lee Gordon, M. D. Published by Philosophical Library 1959. 843 p. Price, $10.00.

Physicians interested in the historical background of the profession will welcome this book. To compose such a volume is no small undertaking when one considers the period of time it covers and the limited recorded knowledge available about the medicine of these eras. Because of this the book is a somewhat disjointed collection of essays on medicine in various countries, diseases and specialties, most chapters being sprinkled with short biographies of physicians and containing fairly adequate references. In general, the essays are well written and interesting, especially the chapter on the development of university teaching.

However, I have found a few disturbing features about this book. Although a history of medieval and renaissance medicine, many of the essays carry their discussion into the nineteenth and twentieth centuries, (For example, in relation to diabetes there is mention of the recently developed oral hypoglycemic agents). There are many illustrations, mostly portraits of physicians, but there is no correlation between these and the text. In fact, there are two pictures of one Jesse Bennett (plate 41 and plate 52) who is reported to have performed the first Cesarian section in this country. I was unable to find any mention of him in the text, even in the chapter dealing specifically with obstetrics; and, of course, one wonders whether he really belongs to this historical period.

In general, I would consider this volume to be a useful reference for physicians for general interest in medical history, but question whether the serious medical historian will find it of great value.

ALTON OCHSNER, JR., M. D.

Medical Research and the Death Penalty; by Jack Kevorkian, M. D., New York, N. Y., Vantage Press, 1960, pp. 75, price $2.50.

The author of this book believes that criminals who have been condemned to death should be given the opportunity of making their bodies available for medical research experiments under anesthesia, which would terminate in death, as an alternative to being executed in conventional fashion. The arguments in support of his proposal are set forth in the form of a dialogue between the author and an imaginary antagonist. The antagonist is allowed to say all of those things that have been voiced against the proposal to the author in private conversation. The author for his part labors the great advantage to medical science that might be obtained from the experiment, and the fact that the procedure would be a benefit rather than a sacrifice to the prisoner himself.

The author is careful to exclude from discussion all considerations of emotional or aesthetic values, claiming that the matter must be decided on purely logical and factual grounds. He may, however, be making a fundamental error in thinking that it is desirable to exclude emotional

factors from what appears to be a rational decision. It is, perhaps, significant that the author is a pathologist rather than a practicing clinician.

The book is thin, and very readable. Its main purpose is stated to be to stimulate serious discussion about this proposal, but serious discussion is likely to originate only from those who believe in it. I do not think that the book will persuade anybody who starts reading it with a prejudice against the idea of human vivisection.

BRIAN H. MCCRACKEN, M. D.

Adventure to Motherhood; by Offen J. Allan, Miami, Fla., Audio Visual Education Company of America, 1960, unpaged, $2.95.

This is a picture story with supplements intended as an aid in prenatal care. The booklet contains color photographs that take a patient and her husband through the normal prenatal course and delivery. The photographs are interspaced with explanations and helpful prenatal advise.
advice.

The supplements which can only be distributed by the physician, consist of a self-taking obstetrical history and hospital information, notebook leaves, and 23 leaflets dealing with information on a variety of subjects such as the Rh factor, diabetes, cesarian section, constipation, etc. These leaflets are given to the patient as it applies to her. The booklet can be purchased in a bookstore by the patient.

This combination will be a very helpful adjunct in providing prenatal care, especially for primigravidas.

DR. WILLIAM VAN MUYDEN

Acute Pericarditis; by David H. Spodick, Grune and Stratton, 1959. 182 p. $6.50.

An excellent monograph carefully outlined and well illustrated. The discussion of basic anatomy, pathology, and particularly the pathophysiologic changes incident to pericardial effusion are interesting.

The description of the general clinical condition is adequate. The discussion of the individual pericarditides is necessarily sketchy. Generally this is an excellent, basic study of value for all clinicians who encounter this problem.

PAUL T. DECAMP, M. D.

Biopsy Manual; by James D. Hardy, M. D., James C. Griffin, M. D. and Jorge A. Rodriguez, M. D., Philadelphia, W. B. Saunders Company, 1959. pp. 150, Price $6.50.

The authors of *Biopsy Manual* have assembled under one cover a hitherto unavailable review of the techniques used and complications encountered in obtaining biopsy material from practically every organ except those of the central nervous system, the heart, and great vessels.

Dr. Hardy and his co-authors have omitted little in the way of biopsy techniques although subjects which belong in the fields of the surgical subspecialists are necessarily dealt with only briefly. More precise information can readily be located by referring to the carefully selected bibliography. Well written and extensively illustrated, the book is replete with practical and reliable suggestions. Particularly valuable are those dealing with the use and hazards of anesthesia and the complications and errors of biopsy.

Biopsy Manual will be useful to the general practitioner and, most particularly, the surgical trainee. In addition, nurses who are in charge of minor surgery should find it extremely useful.

EDWARD S. LINDSEY, M. D.

Living Beyond Your Heart Attack; by Eugene B. Mozes, Prentice-Hall, Englewood Cliffs, N. J., pp. 212, 1959, $3.50.

A scientific book for the layman who has, or is interested in, coronary artery disease.

It is quite complete and very clear, covering all phases of the subject and quoting many references from medical literature.

However, Dr. Mozes tends to suggest to the reader what he feels is the best explanation or therapy in some situations which are still controversial within the profession.

This would be a good book for a physician to recommend to his patient with coronary disease . . . But the physician should first carefully read the sections on Therapy and Rehabilitation (Chapter 6 through 11) before doing so.

MARSHALL FRANKLIN, M. D.

PUBLICATIONS RECEIVED

Doubleday & Co., Inc., N. Y.: Epidemic, by Frank G. Slaughter, M. D., The Gentle Legions, by Richard Carter, M. D.

Grune & Stratton, Inc., N. Y.: Heart Sounds and Murmurs, by Patrick A. Ongley, M. D.; Visual Aids in Cardiologic Diagnosis and Treatment, edited by Arthur M. Master, M. D., and Ephraim Donoso, M. D., sponsored by the American College of Chest Physicians.

The C. V. Mosby Co., St. Louis: Light Coagulation, by Gerd Meyer-Schwickerath, M. D., Translated by Stephen M. Drance, M. B., F.R. C.S. (Eng.); Respiration, Physiologic Principles and Their Clinical Applications, edited and Translated from the German Edition by Peter C. Luchsinger, M. D., and Kenneth M. Moser, M. D.; Instructional Course Lectures, Volume XVII, 1960, edited by Fred C. Reynolds, M. D.

Atlas of Anatomy and Surgical Approaches in Orthopaedic Surgery—Lower Extremity, by Rodolfo Cosentino, M. D.; Cutaneous Manifestations of the Benign Inflammatory Reticuloses, edited by Samuel M. Bluefarb, M. D.; Cerebrospinal Fluid Dynamics in Health and Disease, by David Bowsher, M. D.



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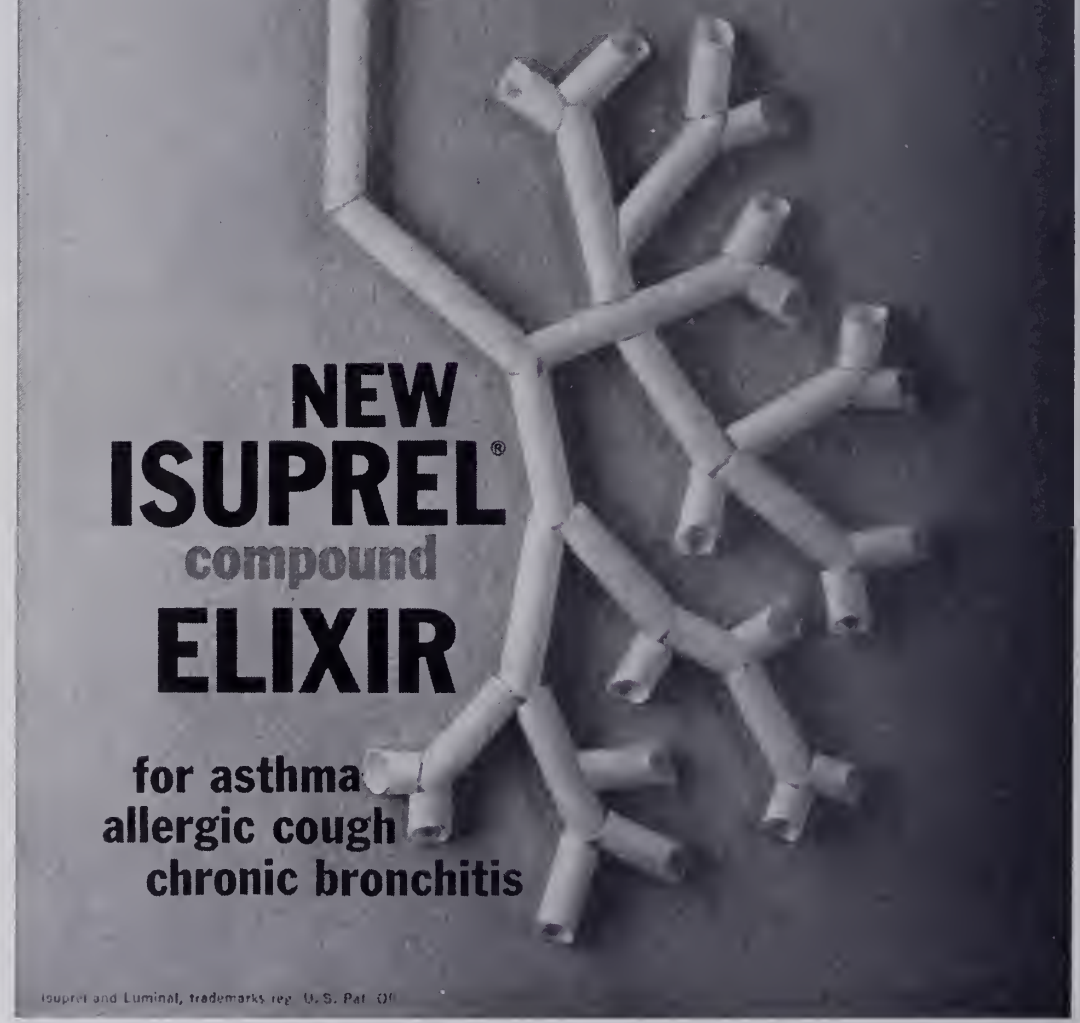
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*Council on Drugs, J.A.M.A. 165:58 (Sept. 7) 1957.

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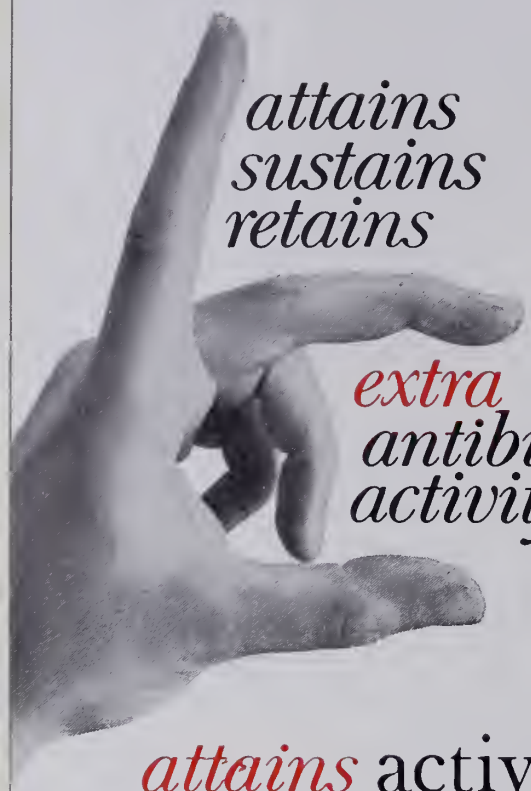
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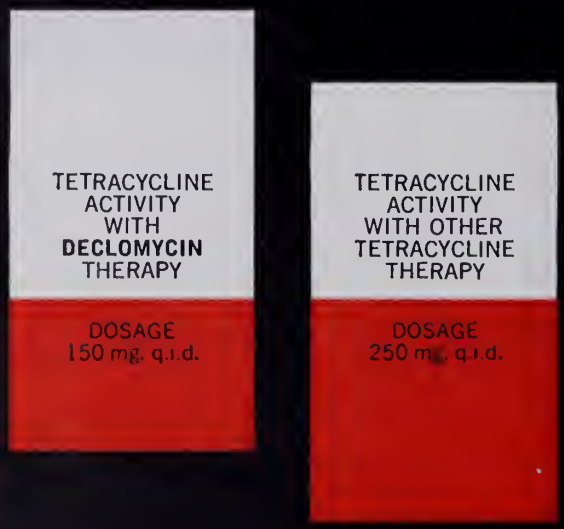
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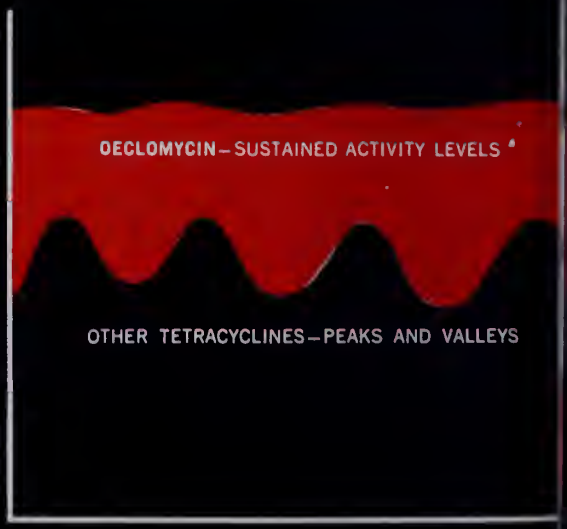
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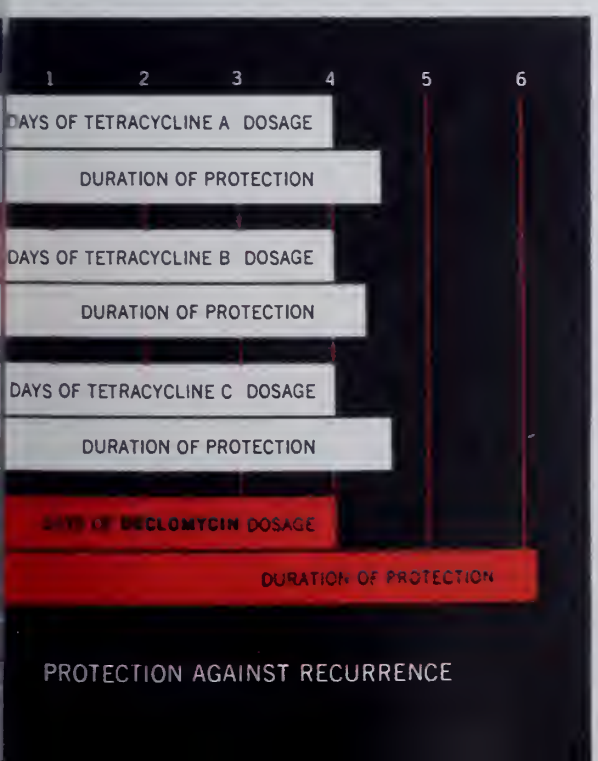
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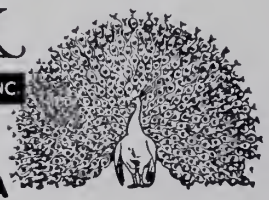
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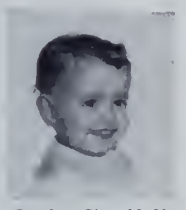
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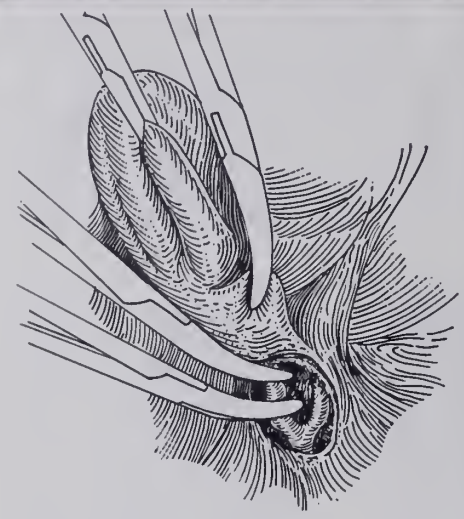
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Source: Farris, J. M., and Smith, G. K.: M. Clin. North America *43*:1133 (July) 1959.

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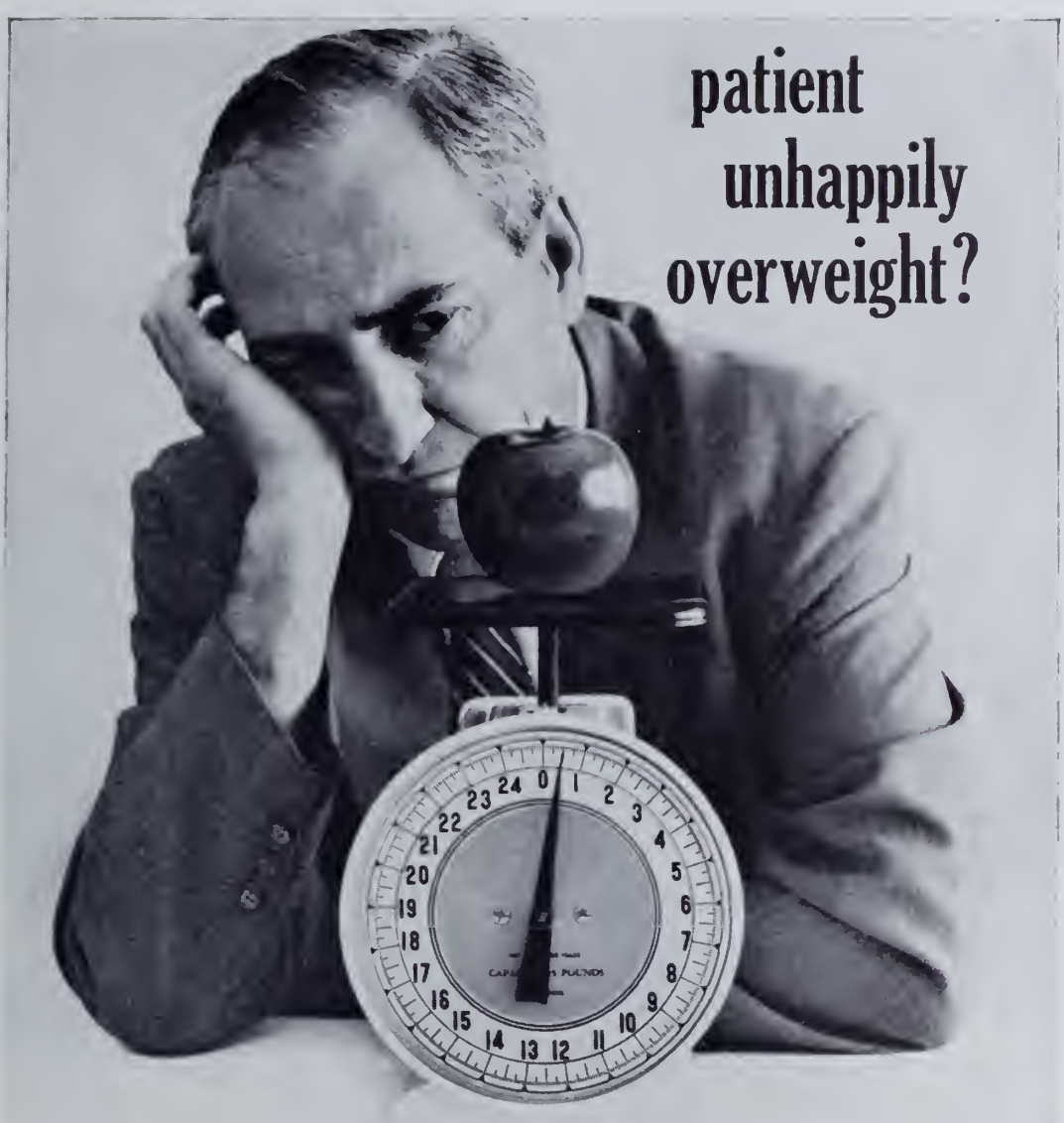


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[1] Douglas, H. S.: West. J. Surg. 59:238 (May) 1951.

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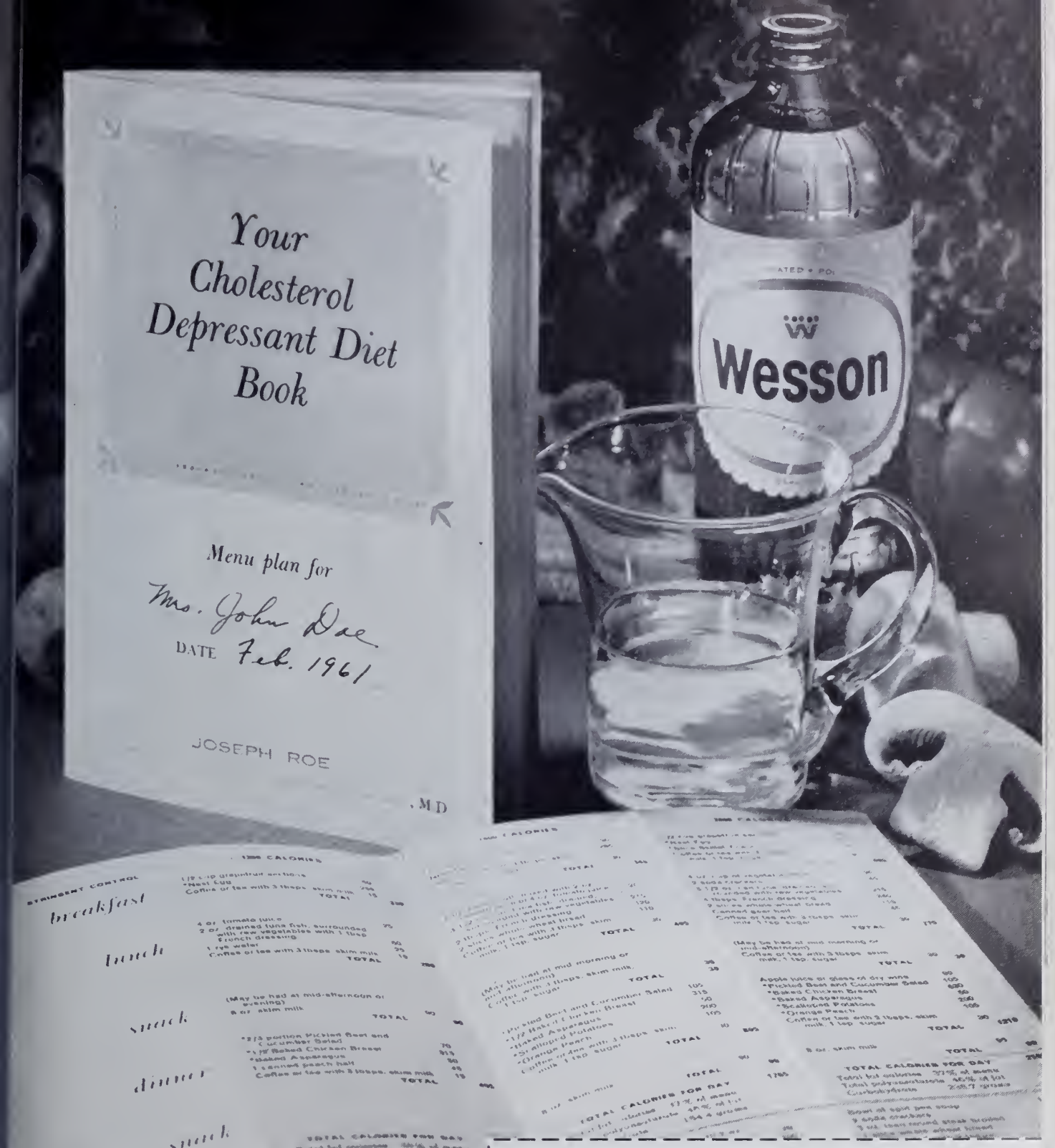
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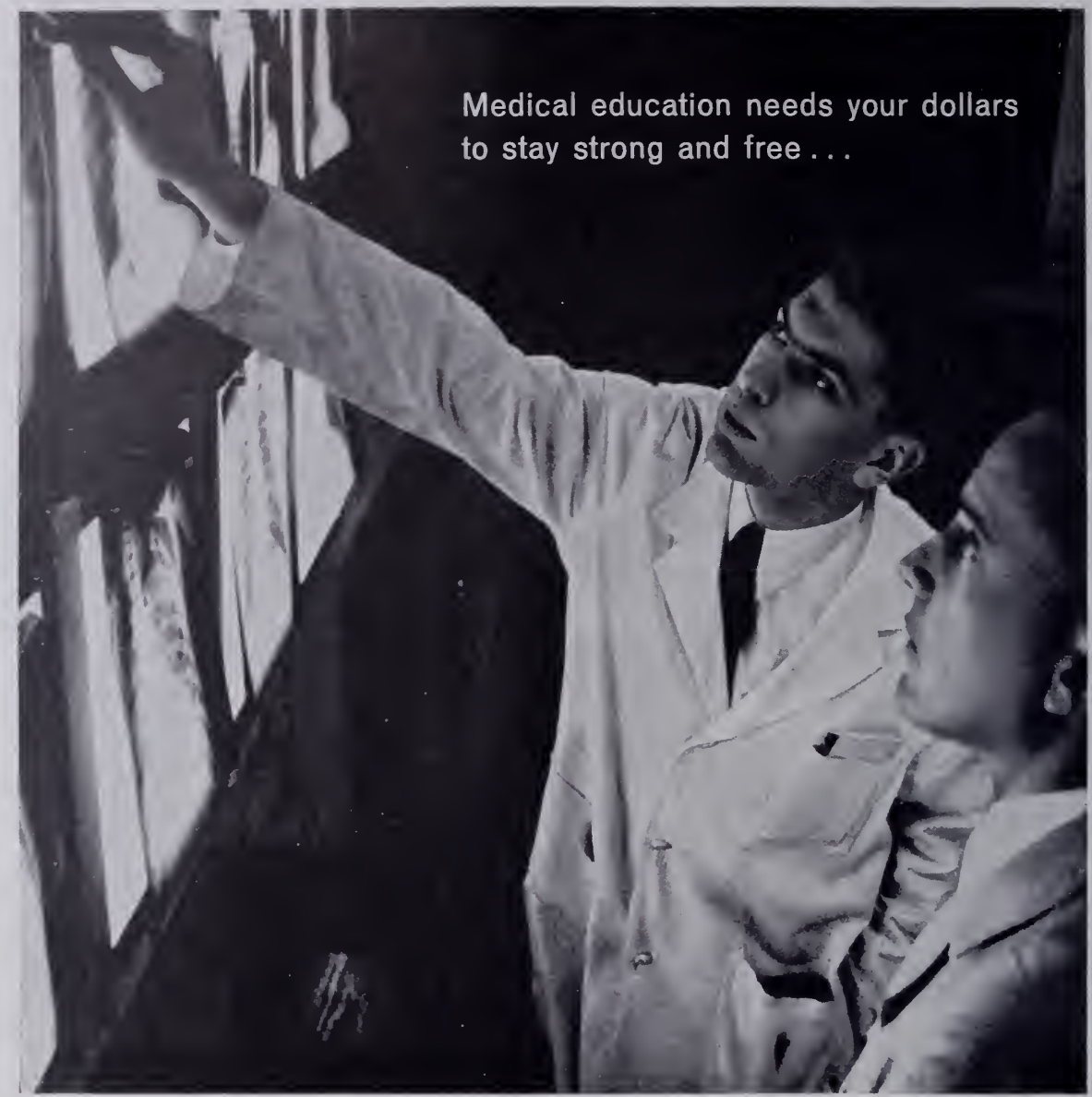
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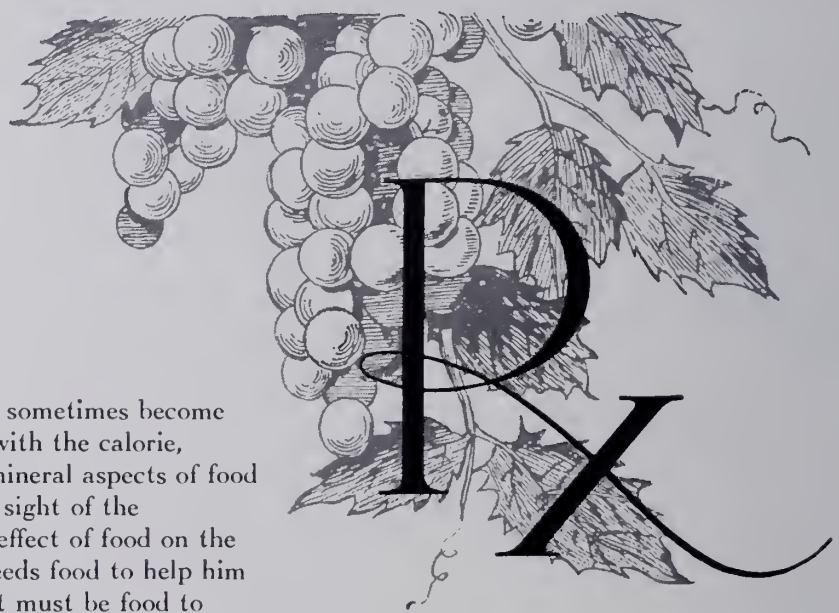
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*Floore, F. B.: Wine is Fine for Hospital Cookery, Mod. Hosp. 94:134 (June) 1960.

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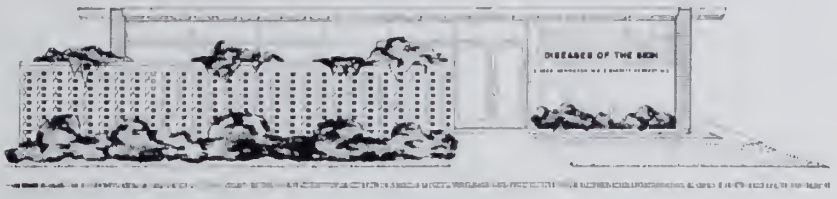
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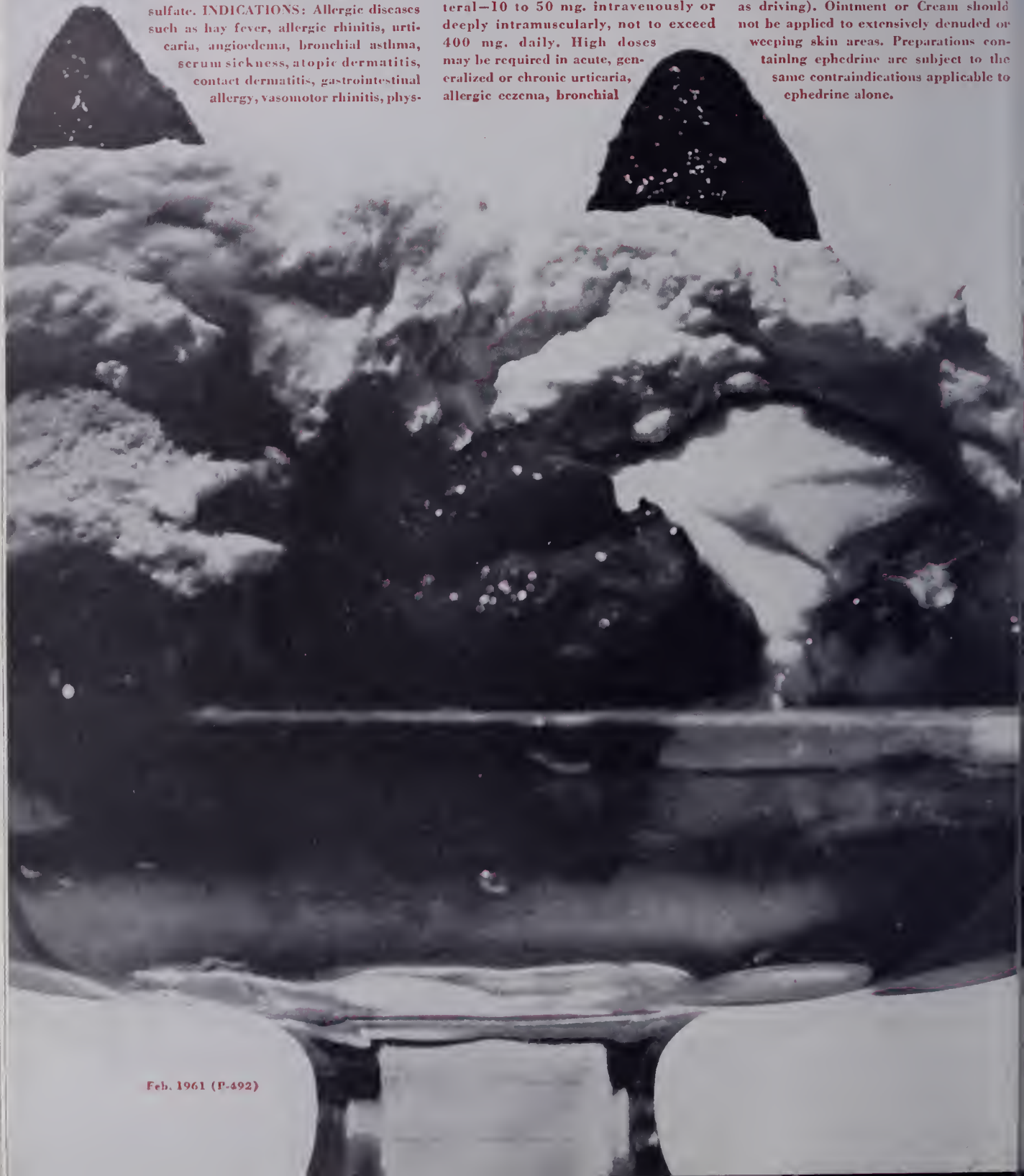
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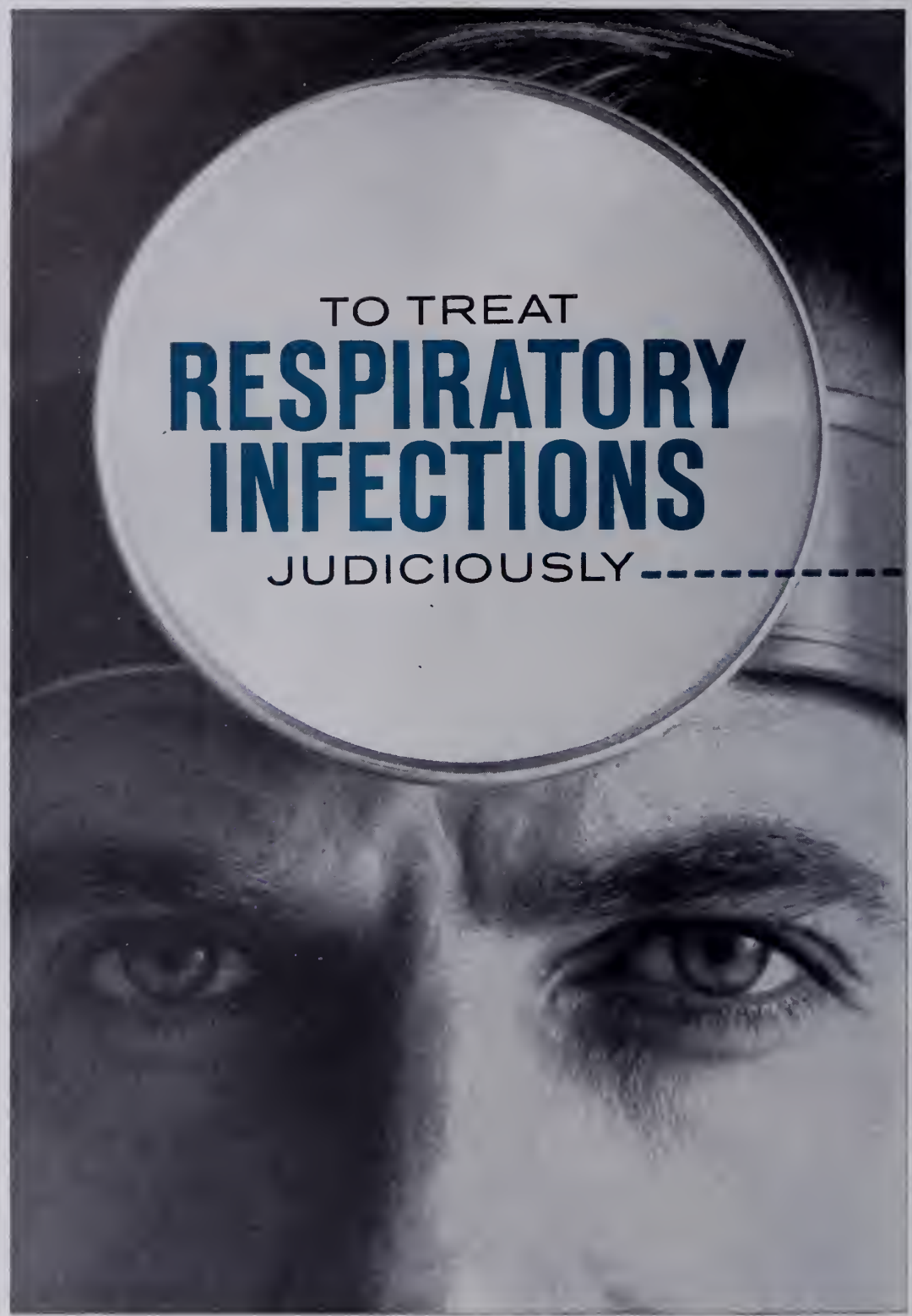
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References: 1. Hollander, J. L.: *J.A.M.A.* 172:306 (Jan. 23) 1960. 2. McGavack, T. H.: *Nebraska M. J.* 44:377 (Aug.) 1959. 3. McGavack, T. H.; Kao, K. Y. T.; Leake, D. A.; Bauer, H. G., and Berger, H. E.: *Am. J. M. Sc.* 236:720 (Dec.) 1958.

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Evaluation of a New Muscle Relaxant In the Practice of Physical Medicine

• The author reports that the drug has many desirable characteristics, and its muscle-relaxing property is without any of the usual side effects.

S. WINOKUR, M. D.
New Orleans

IN the practice of physical medicine, virtually every patient who presents himself complains to some degree of pain and restricted motion. This is usually accompanied by muscle spasm. Since this is so, any medication which will serve to eliminate muscle spasm will render a great service to the patient by relieving pain, and will facilitate treatment by the physician.

Many muscle relaxants have been advocated and used. However, to date the side effects produced by these medications have been so severe as to limit their usefulness greatly. It is for this reason that I was particularly interested in evaluating a new drug (Soma) for which claims had been made that there were no contraindications, no evidence of toxicity in the usual therapeutic dose, and that it produced no excessive sleepiness.

Soma is N-isopropyl-2-methyl-2-propyl-1, 3-propanediol dicarbamate. It is a derivative of meprobamate which itself possesses both tranquilizing and muscle relaxing properties. However, Soma has been found to be 8 times more potent in eliminating spasticity in animals, and is very effective in abolishing joint pain produced experimentally in rats by the injection of silver nitrate. In this test, aspirin protects from pain only in near-lethal doses.[1] Unlike mephenesin, both Soma and meprobamate have a prolonged action.

Laboratory research further reports that "Soma exerts a powerful selective blocking action on the interneurons which control muscle tone. Monosynaptic reflexes are not affected, while multineuronal reflexes, such as the flexor and crossed extensor, are reduced or abolished on small dosage. Unlike mephenesin and meprobamate, Soma has only slight anticonvulsant action. The onset of Soma's action is prompt, usually within thirty minutes. Effects last at least six hours."

In human subjects, no effects on respiration, blood pressure, blood counts or chemistry, or on renal, hepatic or endocrine function have been reported. Patients have been treated with Soma for more than a year without evidence of toxicity or intolerance.

[1] Report from Research Department of Wallace Laboratories.

In making the present study 69 patients were treated with Soma in conjunction with the usual physical therapeutic measures. They were taken in the order in which they came into my office, with no selectivity. Of these 69, 62 were followed to completion, while the treatment of 7 was incomplete for various reasons.

For purposes of this evaluation, an excellent result was defined as one in which there was a complete disappearance of symptoms. A very good result was one in which there was a marked relief of symptoms. A good result was one in which there was a moderate relief of symptoms. A fair result was one in which there was a relief of some symptoms. These conclusions were arrived at both from subjective and objective findings.

Results

Of the 62 patients followed to completion, 26 showed excellent results, 22 showed very good results, 6 were characterized as showing good results, 3 were fair and in 5 patients, the drug was ineffective.

Acute Low Back

Thirty-three of the patients in this series were suffering from acute low back conditions. (Table 1) Results in 17 patients were excellent, and in 13, very good. In 1 the result was good, 1 fair, and 1 patient experienced a definite failure. This patient had clinical evidence of a ruptured intervertebral disc which he refused to have investigated further. As might have been anticipated, he derived no benefit from medication.

In general, Soma showed best results in acute low back syndromes arising suddenly following some unusual activity. In these cases pain and muscle spasm disappeared rapidly. Those whose symptoms had persisted for periods of from several weeks to several months also experienced marked relief, but longer treatment was necessary due to underlying arthritis or postoperative restriction of motion, and muscle spasm.

Nineteen of the low back conditions could be described as severe. The use of Soma and physical therapy produced excellent results in 11 of these 19, with a complete disappearance of symptoms in an average period of 12.6 days. Seven of these 19 experienced relief characterized as good, and 1 obtained no result. This was the same patient noted above with the probable ruptured intervertebral disc, who most likely requires surgery.

The remaining 14 of the 33 low back conditions were classified as moderately acute with symptoms having been present for periods varying from several weeks to several years. Results in 6 of the 14 were excellent, in another 6 were very good, in 1 good and in the remaining, fair.

Cervical Spine

Twenty-four of the 62 patients treated with Soma presented complaints referable to the cervical spine: (Table 2). Of these, 8 obtained excellent results, 8 obtained very good results, 4 obtained good results, 2 obtained results that were fair and 2 patients derived no benefits.

Three of the 24 had acute cervical myositis with severe symptoms, the duration of which ranged from several hours to five days. These 3 patients obtained excellent results, with marked relief of muscle spasm and pain, and limitation of motion within a day or two and complete disappearance of symptoms in an additional day.

Ten other patients in this group of 24 suffered from cervical arthritis and cervical periarthritis. Of the 10, 1 patient obtained an excellent result. It is of incidental interest that the headaches of which she had been complaining also disappeared. Five more obtained very good results, 2 had a good result, 1 fair relief, and 1 had no relief of symptoms.

In general, the patients in this group of 10 had been complaining of symptoms for periods ranging from several months to several years. Their conditions on first evaluation were classified as severe in 2 instances, and as moderate in 8. The 2 patients classified as severe cases obtained very good results. The one failure out of this 10 is a patient who has

TABLE 1
ACUTE LOW BACK CONDITIONS

Diagnosis	Degree of Symptoms	Previous Duration	Previous Medication	Result on Prev. Med.	Result with SOMA	Side Effects
Acute left low back sprain	Very Severe	Sev. hours	0	0	Excellent	Mild drowsiness
Post-op. ruptured intervertebral disc	Very Severe	3 weeks	0	0	Excellent	Mild drowsiness
Acute lumbo. sprain	Very Severe	Sev. hours	0	0	Excellent	Mild drowsiness
Acute low back sprain	Severe	24 hours	0	0	Excellent	None
Acute low back pain, D-12 & L-1	Severe	2 days	0	0	Excellent	None
Sprain of midback	Severe	2 days	0	0	Excellent	None
Acute lumbo. sprain	Severe	6 days	0	0	Excellent	None
Lumbosacral sprain	Severe	2 weeks	0	0	Excellent	None
Acute lumbo. sprain	Severe	1 month	0	0	Excellent	None
Lumbar sprain	Severe	1 month	0	0	Excellent	None
Post-op. ruptured intervertebral disc	Severe	1 month	0	0	Excellent	None
Acute low back strain	Moderate	1 day	0	0	Excellent	None
Post-op. L-5 disc with partial foot drop	Moderate	2 weeks	0	0	Excellent	None
Post-op. lumbar disc	Moderate	2 months	0	0	Excellent	None
Post-op. ruptured intervertebral disc	Moderate	3 weeks	0		Excellent	None
Lumbosacral arthritis with sciatic pain	Moderate	3 months	Decadron Butazol	Ineffective	Excellent	Mild drowsiness
Lumbosacral arthritis with bilat. inguinal pain	Moderate	4 weeks	Decadron Butazol	0	Excellent	None
Post-op. disc	Severe	6 weeks	0	0	Very Good	None
Lumbar arthritis with sciatica	Severe	1 week	Decadron	Fair	Very Good	None
Acute lumbosacral strain	Severe	Sev, hours	0	0	Very Good	None
Acute lumbosacral strain	Severe	2 days	0	0	Very Good	None
Acute low back sprain	Severe	2 weeks	0	0	Very Good	None
Lumbosacral sprain	Severe	2 months	0	0	Very Good	None
Post-op. ruptured intervertebral disc	Severe	1 month	0	0	Very Good	None
Low back pain with nerve root involvement	Moderate	6 months	Butazol Steroids	Fair	Very Good	None
Lumbar sprain	Moderate	3 months	Steroids	Poor	Very Good	None
Post-op. intervertebral disc, restricted motion	Moderate	2 weeks	Salicylates Steroids	Fair	Very Good	None
Midback injury, level D-11-12 (sprain)	Moderate	3 months	0	0	Very Good	None
Arthritis of spine	Moderate	Sev. years	Metacortin	Fair	Very Good	None

TABLE 1—Continued
ACUTE LOW BACK CONDITIONS

Diagnosis	Degree of Symptoms	Previous Duration	Medication Previous	Result on Prev. Med.	Result with SOMA	Side Effects
Chronic arthritis, D-5-6, following auto accident	Moderate	3 ½ months	0	0	Very Good	None
Chronic arthritis, lumbar spine, with paraesthesia, both legs, worse in left	Moderate	2 years	Decadron	Poor	Good	None
Low back injury	Moderate	5 months	0	0	Fair	None
Sciatic pain, ruptured intervert. disc.	Severe	3 ½ months	Steroids Salicylates	Poor	Ineffective	None

Totals:			Percentage of whole:	
	Excellent	17	Excellent	52%
	Very Good	13	Very Good	39%
	Good	1	Good	3%
	Fair	1	Fair	3%
	Ineffective	1	Ineffective	3%
		33		100%

TABLE 2
CERVICAL SPINE

Diagnosis	Degree of Symptoms	Previous Duration	Previous Medication	Result on Prev. Med.	Result with SOMA	Side Effects
Acute cervical myositis	Very Severe	5 days	0	0	Excellent	None
Acute cervical myositis	Very Severe	Sev. hours	0	0	Excellent	None
Acute cervical myositis	Severe	Sev. hours	0	0	Excellent	None
Cer. arthritis with brachial neuritis c-6	Severe	3 days	0	0	Excellent	None
Chronic cer. periarthritis with headaches	Moderate	20 years	0	0	Excellent	None
Cer. arthritis with compression of 6th nerve root	Moderate	5 weeks	0	0	Excellent	None
Whiplash injury of neck (cer. sprain)	Moderate	4 days	0	0	Excellent	None
Whiplash injury of neck	Moderate	5 days	0	0	Excellent	None
Severe cer. injury; restriction of motion	Very Severe	5 months	0	0	Very Good	None
Chron. periarthritis shoulder and neck	Very Severe	3 years	Meticorten	Fair	Very Good	None
Post-op. ruptured cervical disc	Severe	2 months	0	0	Very Good	None
Upper cer. arthritis with subacute cer. myositis	Severe	2 weeks	Salicylates Codeine	Dizziness Nausea	Very Good	None

TABLE 2—Continued
CERVICAL SPINE

Diagnosis	Degree of Symptoms	Previous Duration	Previous Medication	Result on Prev. Med.	Result with SOMA	Side Effects
Acute c-5 nerve root pain	—	1 week	0	0	Very Good	None
Acute periarthritis of neck and back	Moderate	2 weeks	0	0	Very Good	None
Chron. periar. right cervical area	Moderate	Sev. years	Meprobamate	Fair	Very Good	None
Chron. cervical arthritis	Moderate	2 years	0	0	Very Good	None
Rheumatoid arthritis	Moderate	2½ years	Salicylates Steroids	Poor	Good	None
Cervical arthr. with brachial neuritis	Moderate	6 weeks	Meprobamate	Poor	Good	None
Cervical disc syndrome with pressure 6th nerve root	Severe	2 weeks	0	0	Good	None
Arthr, of cerv. spine and right shoulder	Moderate	4 months	Salicylates Steroids	Poor	Good	None
Sev. whiplash injury of neck with res. of motion; mod. pain	Moderate	3 weeks	Salicylates Demerol	Fair	Fair	None
Chron. arthr. cerv. spine and left shldr.	Moderate	Sev. months	0	0	Fair	None
Chron. arthr. cerv. spine and left shldr.	Moderate	Many years	Salicylates	Hyper-acidity	Ineffective	None
Cerv. arth. with 6th nerve root comp.	Mild	2 months	0	0	Ineffective	None
Miscellaneous Complaints						
Recurrent bursitis, left. shoulder	Moderate	Sev. weeks	Steroids	Good		
Arthritis, shoulders	Moderate	1 year	Steroids Mus. Rel.	Fair	Very Good	None
Residual pain from intercostal herpes zoster bilat. hand-arm synd.	Severe	9 months	Salicylates Codeine	Fair	Good	None
Left hemiplegia with pain in leg and back	Severe	Sev. years	Steroids	Fair	Ineffective	None
Chron. arthr.-knees	Moderate	10 years	Salicylates Salicylates	Fair	Ineffective	None

Totals of foregoing:			Percentages:	
	Excellent	9	Excellent	31%
	Very Good	9	Very Good	31%
	Good	5	Good	17%
	Fair	2	Fair	7%
	Ineffective	4	Ineffective	14%
		29		100%

been receiving treatment for many years and who has a great aversion to medication.

Six further patients of the 24 showed symptoms of cervical nerve root compression manifested by pain and paraesthesias in the upper extremity, with radiation into the hand. In 5 of these patients, the complaints were secondary to arthritis, and the sixth had a cervical disc syndrome. Initially, they were classified as follows: 2 severe, 3 moderate and 1 mild. Of the total, 2 obtained excellent results, 1 very good, 1 good and 1 none.

In one of the above 6 who obtained an excellent result, phenylbutazone was used in conjunction with Soma and physical therapy. In two other of these patients, one of whom obtained results classified as very good and the second as good, steroids were administered as a supplement to medication with Soma. These patients experienced a complete disappearance of symptoms. The patient in this group who obtained no benefit from medication was a man who had complained of intermittent paraesthesias in his right hand.

Four of the patients in this trial had whiplash injuries. Two of them were still suffering quite severely although the injuries had occurred some months previously. One of these 2 obtained very good results and the other derived no benefit. The remaining 2 of this group, who had moderate symptoms of recent origin, experienced almost complete relief of symptoms within a few days.

One patient had extensive spastic quadreplegia resulting from a ruptured cervical disc following an auto accident. When first seen at conclusion of surgery this patient evidenced a spasticity so severe as to preclude ambulation. With the use of Soma and muscle re-education, she now manages independent gait without the use of crutches or braces.

Other Conditions

Five patients could not be included in any of the foregoing categories. One was an old left hemiplegic, complaining of pain in his left leg and lower back who experienced no beneficial results from Soma. Another had chronic arthritis of both knees, of ten years' duration. He also received no relief from Soma. A third patient had recurrent bursitis of the left shoulder. He obtained an excellent result within a week. The fourth patient had been suffering from arthritis of both shoulders for about a year. He had previously been tried with steroids and muscle relaxants, with only fair results. On Soma, he reported his symptoms greatly relieved.

The last of these 5 was an elderly man with residual pain from intercostal herpes zoster plus a bilateral hand-arm syndrome. He experienced substantial relief of symptoms with Soma, although nerve pain still persisted, as might be expected.

General Conditions

From the evaluation of this drug there emerge several pertinent facts not at first apparent. It should be noted that, with the use of this drug, the general handling of a patient was facilitated by an apparent or real calming effect. I have repeatedly observed that patients who had been complaining bitterly of pain and inability to sleep immediately reported improvement of these symptoms following the institution of therapy with Soma. Almost all the patients report diminished pain while on Soma, with increase of motion.

It then becomes apparent that we have available a drug with many desirable characteristics. Primarily, of course, we are interested in the muscle-relaxing effect of this drug. In my experience it has proved at least as effective in this respect as any other drug available, and yet it does not have the usual side effects so commonly noted with others such as gastrointestinal upsets, marked drowsiness, skin rashes, and blood disturbances. The mild sedative action that the drug exerts is usually highly desirable. One patient on Soma noted that during long periods of driving he experienced enough drowsiness to make him feel driving was dangerous. However, in city driving he

TABLE 3
RECAPITULATION

Patients followed to completion: 62

Results			
Excellent	26	Excellent	42.0%
Very Good	22	Very Good	35.6%
Good	6	Good	9.6%
Fair	3	Fair	4.8%
Ineffective	5	Ineffective	8.0%
TOTALS	62		100%

never experienced this drowsiness. It might be well to caution patients not to undertake long driving trips while taking Soma.

Summary

Of the 62 patients followed to completion in this study, 26, or 42 per cent, obtained excellent results. An additional 22, or 35 per cent, obtained very good results. Six patients, or 10 per cent, obtained good results. Three more, or 5 per cent, obtained fair results. In five patients, or 8 per cent, the drug proved ineffective.

The patients studied in this series were not selected except in the sense that they had conditions which I felt might respond to Soma. All were treated with standard physical therapeutic measures and, in addition, were given Soma. Dosage was 350 mg. 3 times a day after meals, with an occasional fourth tablet at bedtime. This dosage was found to be completely adequate. It is worth noting that the medication was equally effective in males and females, and in young and old adults alike.

There is no doubt in my mind that, in those patients in whom beneficial results were obtained, the duration of the patients' condition was shortened by the use of Soma.

Editorial

New Orleans had, for many years, suffered the results of war. Her dearest interests were disregarded and her most sacred rights trampled in the dust. When her people were disheartened by oppression, from which there seemed no relief, her sons by a bold stroke for liberty, regained the seats of government, and the light of a new existence appeared to dawn. But a greater foe was at our doors, not to be successfully met by valor, nor defeated by the force of arms. The year 1878 has indelibly inscribed on the tablets of our memories the deeds of that enemy in our midst. We know the vast amount of physical distress entailed, and we all remember what injury our business suffered. But, notwithstanding all the political strife of the years gone by, and our affliction by yellow fever, New Orleans has risen phoenix-like from the ashes of her misfortunes; and turning from the gloomy vista of the past, she can see the landscape of her future spread out in all its beauty before her.

Address delivered at the Annual Meeting of the Orleans Parish Medical Society, March 28, 1881, by the Annual Orator, F. W. Parham, M. D.
New Orleans M. & S. J., 8:975 (April) 1881.

Retroperitoneal Extravasation Of Barium Enema

• Two unusual cases of perforation of the bowel are reported, with death in one ten hours postoperatively.

RICHARD H. CLARK, M. D.
FRANK E. SCHMIDT, M. D.
T. HENDREN
New Orleans

Introduction

REVIEW of the literature reveals few references to retroperitoneal, but many to intraperitoneal, extravasation of barium sulfate suspension. The recent occurrence of two similar cases on the Tulane Surgical Service at Charity Hospital in New Orleans focuses attention on the rarer problem.

It is surprising that with the vast volume of x-ray studies made of the colon the number of perforations is small. At Charity Hospital of New Orleans 2,400 barium enemas were performed in 1958 and only two perforations are recorded. It has been pointed out by Pratt and Jackman,[1] however, that most enema tip punctures during barium enema occur on an anterior rectal wall just above the dentate margin where there is no sensory innervation. Therefore it is likely that many injuries are unnoticed since localized abrasions, submucosal abscesses and hematomas may be asymptomatic and may heal spontaneously.

Another etiology of perforation is the acute rise in pressure which occurs with barium enema. The sigmoid is most often the site of the injury, although this is the strongest segment of the large bowel. The reason is believed to be due to the fact that the sigmoid is fixed both proximally at the sharp angulation and distally at the peritoneal reflection. The sudden force of the inflowing barium sulfate suspension is momentarily halted by the upper angulation and considerable pressure is directed against the wall of the sigmoid.[2] The pressure required to rupture the muscularis and mucosa of the large bowel is 3.49 pounds per square inch or 18 cm. column of mercury. Following rupture of the outer coats, the mucosa bulges through and a total pressure of 4.07 pounds per square inch is required to burst all three layers. It is noted that a three-foot column of barium sulfate suspension (S.G. 1.070) is equal to a 7.66 cm. column of mercury. In the light of the above figures it would seem logical to assume that most pressure ruptures occur in the diseased bowel.[3]

One other rare method of extravasation of barium enema is that of entering a previous fistulous tract with the nozzle and thereby introducing the solution into the perirectal tissue.[4]

It is noted that in one of our cases the diagnosis was made by fluoroscopy at the time of rupture. In discussing intraperitoneal perforation Issacs[5] and Hammit[3] state that one of the first signs of perforation is a linear concentration of barium sulfate suspension lateral to the filled bowel. This is caused by the solution adhering to the adjacent wall of the peritoneal cavity.

Case Reports

Mrs. E. A., 53, WF: This patient had an abdominal perineal resection for carcinoma of the rectum in 1939. She was seen in the outpatient clinic on September 23, 1958, where a routine follow-up barium enema through her sigmoid colostomy was done. During this procedure she

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experienced a sudden onset of left lower quadrant pain and weakness. A diagnosis of extravasation of barium sulfate suspension was made on fluoroscopy. She was operated on within a very short time. At operation the patient was moribund and exploration revealed retroperitoneal extravasation of barium sulfate suspension in the area of the right colic gutter. There was gangrene of the mesentery and left colon. A left descending and transverse colectomy was done and the area drained.

Postoperatively the patient was hypotensive for three hours in spite of all measures, but finally responded to vasopressors and steroids. The sodium and potassium were markedly decreased just two hours postoperatively in this previously well woman. The postoperative course was strongly punctuated by electrolyte problems, wound infection and a left upper quadrant intra-abdominal abscess. She finally recovered completely and was discharged on November 14, 1958.

Mrs. W. M., 66, WF: This patient had a villous tumor of the rectum and as part of her routine workup a barium enema was done on September 29, 1958. Following this procedure the patient had lower abdominal pain and distention. A diagnosis of barium sulfate suspension extravasation was made on clinical grounds, and an abdominal exploration was done which revealed only retroperitoneal barium sulfate suspension. A transverse colostomy was done and the area of extravasation drained. The postoperative course was marked by hypotension, sodium and potassium decrease, and death ten hours postoperatively.

These two cases appear unusual for two reasons: (1) that they represented traumatic perforations of the bowel, and (2) they manifested such a rapid downhill course with almost intractable shock. Also the first case was unusual because of the serious electrolyte problems encountered. In order to further study these phenomena we undertook a brief experiment.

Experiment

Using six healthy 7-12 Kg. dogs, anesthetized with Nembutal, a barium sulfate suspension identical to that used for routine diagnostic x-ray studies at Charity Hospital of Louisiana (15% barium sulfate and 1% tannic acid in water) was sterilized and 20 cc. were injected aseptically into the retroperitoneal perirectal area via the rectal wall. The dogs were observed with a continuous blood pressure recording for one hour. Serum potassium and sodium levels were determined before, one hour after, and six hours after injection of the suspension. The animals were subsequently followed with close observation for a period of forty-eight hours.

Results

The dogs showed no significant changes in blood pressure, pulse, or respiration. They reacted from the anesthesia in a normal manner and within twenty-four to forty-eight hours were alert and well, showing absolutely no acute adverse effects from the barium sulfate injection. One animal later developed a fistulous tract from the area of injection to the flank; this healed spontaneously. Further observation over a four-month period has failed to reveal any late complications. The serum sodium and potassium levels were not significantly changed during the observation period.

During the first week following injection x-rays revealed the barium sulfate to be diffusely distributed throughout the retroperitoneal space. Detailed pathological studies were not carried out as granulomatous reaction to barium sulfate has been adequately described elsewhere.[6-9] An attempt was made to demonstrate barium in the peripheral blood of one dog and of both patients. No barium level could be determined in any case.

Conclusions

Sterile barium sulfate suspension when injected or placed within the retroperitoneal space produces no acute adverse effects and can not be incriminated as an agent producing the events observed in our two patients. The clinical picture of perforated bowel during barium enema must be the result of gross contamination from the intestinal flora. The only deleterious effects which can be attributed to extravasated barium enema are due to impure solution, bacterial contamination, and late fibrotic adhesions.[6] The late tissue response to pure sterile barium sulfate suspension has been adequately described as being an early fibrous reaction with neutrophil and lymphocytic infiltration. At three months it is a well developed

fibrous reaction with gross adhesions. At six months there is a localized foreign body granuloma, well circumscribed with minimal inflammatory response.

Perforation of the large bowel occurring during barium enema should be treated immediately and vigorously. Proctoscopy is advised to locate the perforation and confirm the diagnosis. A catheter may be placed through an intraperitoneal perforation to facilitate exploration. A proximal colostomy should be done and, for intraperitoneal contamination, laparotomy and lavage with saline and antibiotic solution are indicated. For extraperitoneal perforation surgical drainage of the area is advised. In spite of rigorous immediate treatment the mortality is high and the only recommendations which can be made to decrease this mortality is that careful technique be applied in performing the barium enema.

Summary

Two cases of retroperitoneal extravasation of barium sulfate suspension during barium enema are presented. An investigation involving injection of sterile barium sulfate suspension into the perirectal retroperitoneal space in dogs was carried out. There were no acute adverse effects which could be attributed to the barium sulfate suspension injection. A review of the literature is included along with some recommendations for treatment.

References

1. Pratt, J. H., and Jackman, R. J.: Perforation of the Rectal Wall by Enema Tip, Proc. Staff Meet., Mayo Clinic 20:277, 1945.

2. Leichtling, J. J., and Demetriades, A. D.: Irreducible Intussusception and Barium Peritonitis, J. Mount Sinai Hosp. N. Y. 24(4), 1957.

3. Hamit, H. F.: Perforation of the Colon with Barium Enema and Air Contrast Studies, Am. Surgeon 21: 1226 (Dec.) 1955.

4. Swartz, L. W.: Barium Granuloma From Barium Enema, Am. J. Surg. 90:802, 1955.

5. Issacs, I.: Intraperitoneal Escape of Barium Sulfate Solution Following Perforation of the Sigmoid Colon, J.A.M.A., 150:645, 1952.

6. Kleinsasser, L. J., and Warshaw, H.: Perforation of the Sigmoid Colon with Barium Sulfate Solution, Ann. Surg. 135:560, 1952.

7. Kay, S.: Tissue Response to Intraperitoneal Barium Sulfate Solution, A.M.A. Arch. Path. 57:279, 1954.

8. Kay, S. and Choy, S. H.: Experimental Peritoneal Injection of Barium Sulfate Solution, A.M.A. Arch. Path. 59:388, 1955.

9. Sanders, A. W. and Kobernick, S. D.: Barium Sulfate Solution in the Retroperitoneal Space via Fistula, Am. J. Surg. 93(5):907, 1957.

Training School for Nurses

The physicians of New Orleans are to be congratulated that a training school for nurses will soon be established. Our estimable confrere, Dr. D. C. Holliday, Vice President of Administrators of the Charity Hospital, has taken the matter in hand, and is urging it forward with that vigor so characteristic of him. New Orleans Physicians are thoroughly acquainted with that pink of perfection, **"Sairy Gamp."** She exists among us in all the reality of life, and the only trouble is that faithful copies of Dickens' famous prototype flood the market. Let us hope that the character of the nurse will be so improved that she will assist rather than retard the efforts of the practitioner. We have no fear but that success will attend the arduous task undertaken by Dr. H., and wish him God speed its accomplishment.

New Orleans M. & S. J. 8:314 (October) 1881.

Oral Diuretics as an Adjunct in the Treatment of Congestive Heart Failure*

• An analysis of the results of administration of three oral diuretics in the treatment of congestive heart failure to a total of 74 patients.

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THIS study was undertaken to determine the effectiveness of three oral diuretics in congestive heart failure and to assess how they alter the electrolyte pattern during long term therapy. The three drugs studied were dichlorphenamide, chlorothiazide, and hydrochlorothiazide.

Methods

All patients were in chronic congestive heart failure and were usually completely digitalized prior to the institution of diuretic therapy. There were 22 patients treated with dichlorphenamide; 29, with chlorothiazide and 23, with hydrochlorothiazide. Blood chemistry studies were done at one to four week intervals. Serum sodium and potassium were determined by the flame photometric method. The nonprotein nitrogen was measured by the Koch and McMeekin [1] technic and the uric acid, by the Folin [2,3] method. The CO_2 combining power was determined by the titrimetric method of Scribner,[4] using microburets rather than syringes. A careful record was also kept of blood pressure, weight, pulmonary findings and amount of edema, as well as any other signs of congestive failure. A record was kept of all injections of mercurial diuretics required, and of any side effects occurring during therapy. All patients were encouraged to restrict moderately the dietary intake of sodium.

Results

Of the 22 patients treated with dichlorphenamide (Table 1), 12 had arteriosclerotic heart disease. The average dosage required for satisfactory diuresis was 25 mgm. four times a day. Only fifteen injections of mercurial diuretics were required during the course of treatment. Satisfactory diuresis occurred in all cases with no development of resistance. The only death, unrelated to drug therapy, was a case of interatrial septal defect with partial anomalous venous return. He was 56 years of age, and had been in congestive failure since 1952. Surgery had not been recommended because of pulmonary hypertension, age, and congestive failure.

It was necessary to discontinue the drug in 3 patients. This was done in one because of intractable dizziness and in another, because of dizziness, loss of appetite, cough and shortness of breath. In the third case, dichlorphenamide was stopped because of nausea and vomiting. The remainder of the side effects mentioned in the table did not require discontinuance of the drug.

During treatment with dichlorphenamide, the chlorides, potassium, nonprotein nitrogen and uric acid showed no significant change. Figure 1 shows 4 typical

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TABLE 1
DICHLORPHENAMIDE *

Etiology	Number	Inject. of mercurial diuretics	Duration of Treat. (mo.) <1	1-3	3-6	6-7	Deaths **	Side Effects: Anorexia	Nausea vomiting	Dizziness	Paresthesias	Drug Stopped
ASHD	12	12	4	1	4	3	0	2	1	3	2	1 case because of intractable dizziness. 1 case because of cough, shortness of breath, intractable dizziness, loss of appetite.
Ventricular Septal Defect with Failure and Angina	1	0	0	0	1	0	0	0	0	0	0	
HCVD	1	0	0	1	0	0	0	0	0	0	0	
ASHD & Cor Pulmonale	1	1	0	1	0	0	0	0	0	0	0	
Cor Pulmonale	1	2	0	0	1	0	0	0	0	0	0	
Rheumatic HD	2	0	0	1	1	0	0	0	0	1	0	
Calcific Aortic Stenosis	1	0	0	1	0	0	0	0	0	0	0	
Luetic HD	2	0	1	0	1	0	0	1	1	0	0	1 case intractable nausea & vomiting
Interatrial Septal Defect Anomalous Pulmonary Drainage. Failure since 1952.	1	0	1	0	0	0	1	1	1	0	0	
Totals	22	15	6	5	8	3	1	4	3	4	2	3

Satisfactory diuresis in all patients able to take medicine. Average dose 25 mg. q.i.d. No resistance developed.

* Daranide
** Not result of drug

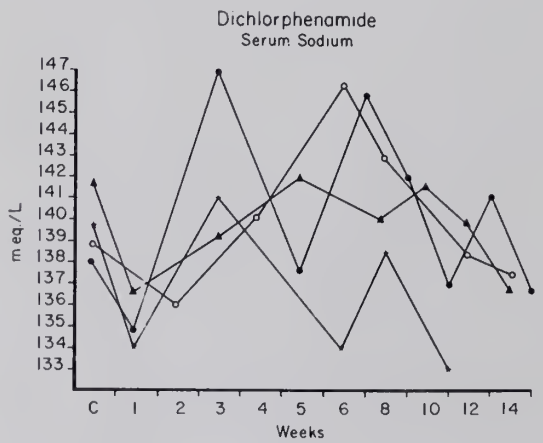


Figure 1a

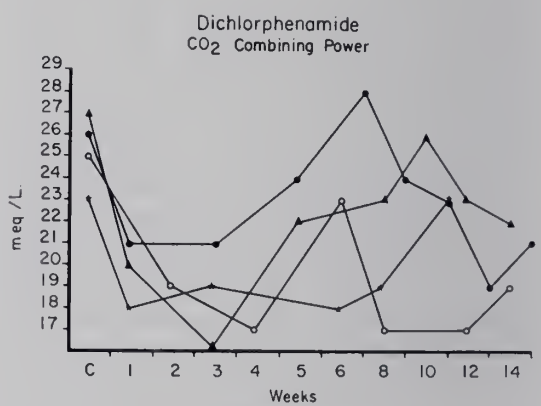


Figure 1b

cases followed for fourteen weeks. It should be noted that the sodium and CO_2 combining power show initial and recurrent reductions, but later return to normal levels. In the patients treated over longer periods of time than depicted in these graphs, there was no change in the pattern of electrolyte response.

Of the 29 patients treated with chlorothiazide (Table 2), 20 had arteriosclerotic heart disease. Neither of the 2 deaths

TABLE 2
CHLOROTHIAZIDE *

Etiology	Number	Inject. of mercurial diuretics	Duration of Treatment (months)						Deaths **	Side effect Anorexia	Supplemental KCl given	Avg. dose 0.5 gm. b.i.d. No. on 1.0 gm. a.m. 0.5 gm. p.m.
			<1	1-3	3-6	6-9	9-12	12-15				
ASHD	20	13	1	1	7	3	4	4	1	2	1	2
Luetic HD	2	2	0	0	0	1	1	0	0	0	0	1
Rheumatic HD	1	1	0	1	0	0	0	0	1	0	0	0
Interatrial Septal Defect Anamolous Pulm. Drainage	1	1	0	0	0	1	0	0	0	0	0	1
HCVD	2	0	0	0	1	0	1	0	0	0	0	0
HCVD, ASHD	1	0	0	0	0	0	0	1	0	0	0	0
ASHD & Calcific Aortic Stenosis	2	0	0	0	0	1	0	1	0	0	0	0
Totals	29	17	1	2	8	6	6	6	2	2	1	4

Satisfactory diuresis in all cases. No development of resistance.

* Diuril

** Not due to drug

could be attributed to the drug. No patient required discontinuance of therapy because of side effects. Anorexia occurred in 2 patients. One patient required supplemental potassium. The average dose of chlorothiazide was 0.5 grams twice a day, but 4 patients required 1.5 grams daily.

Blood chemistries studied during chlorothiazide therapy revealed no appreciable effect on the CO_2. The nonprotein nitrogen was elevated in only one patient, age 82. This later came down to pretreatment level when he was changed to dichlorphenamide. The uric acid became initially elevated in some patients, but returned to normal after treatment was continued. From the graphs of 4 typical cases (Figures 2a, 2b and 2c), it is obvious that in spite of the initial and recurrent reductions in the electrolytes during therapy the levels tend to return to normal. In those patients whose treatment was carried further than the fourteen weeks, there was no appreciable change in their electrolyte pattern.

Of the 23 patients treated with hydrochlorothiazide (Table 3), 11 had arteriosclerotic heart disease. The average dosage was 50 mgm, twice a day. The one death was not attributable to the drug. The anorexia and nausea in one case were not severe enough to necessitate discontinuance of the drug. In three patients with chronic renal disease, we experienced elevation of the nonprotein nitrogen during therapy. One of these returned to the former level after the drug was stopped. Another returned to the pretreatment level after the drug dosage was reduced to 50 mgm. every other day. A third patient had a nonprotein nitrogen prior to therapy

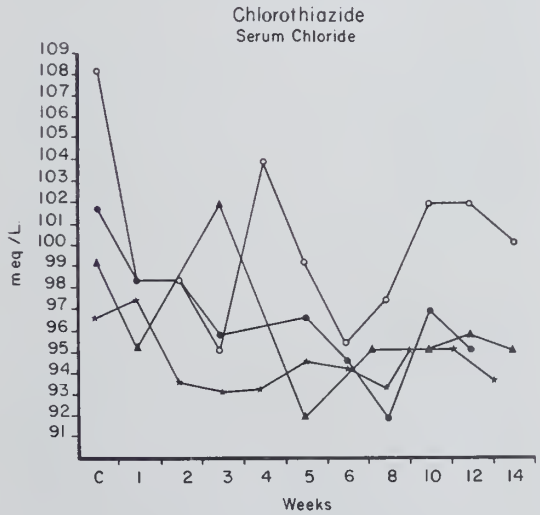


Figure 2a

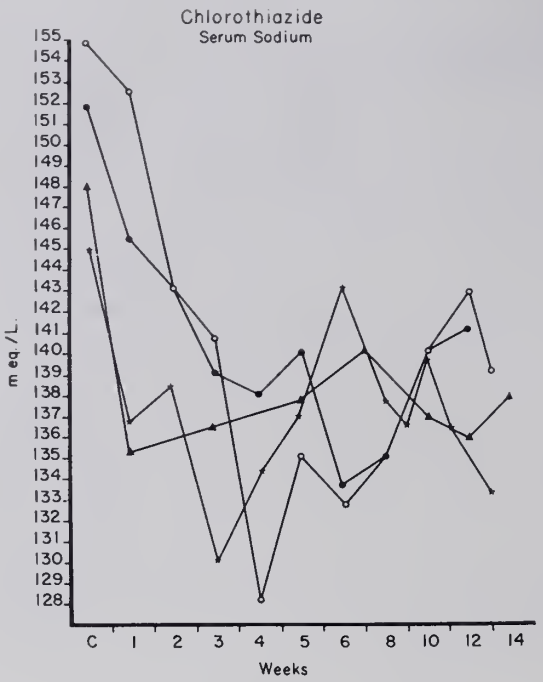


Figure 2b

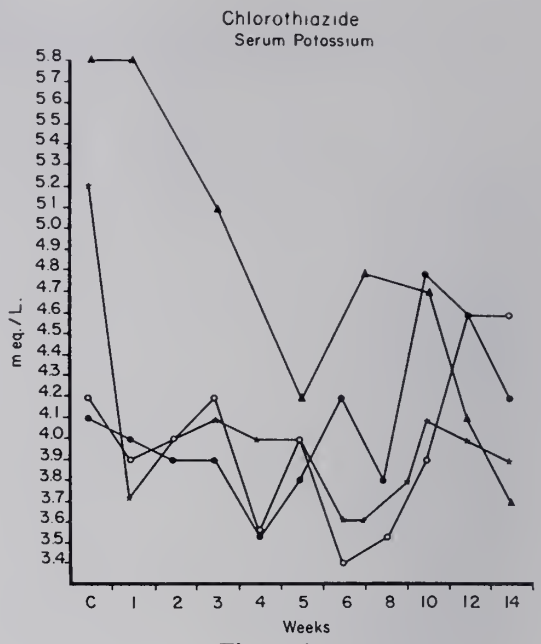


Figure 2c

TABLE 3
HYDROCHLOROTHIAZIDE ***

Etiology	Number	Inject. of mercurial diuretics	Duration of Treat. (mo.) <1	1-3	3-6	6-7	Deaths **	Side Effects Anorexia	Nausea	Elevated NPN*	
ASHD	11	8	1	1	6	3	1	1	1	0	
HCVD	3	0	1	1	0	1	0	0	0	2	1 returned to former level after drug stopped. 1 came down when dosage reduced to 50 mg. every other day.
Rheumatic HD	3	0	0	1	1	1	0	0	0	0	
Luetic HD	2	0	0	0	0	2	0	0	0	0	
Cor Pulmonale	1	0	0	0	0	1	0	0	0	0	
Cor Pulmonale & ASHD	2	5	0	0	2	0	0	0	0	1	Had NPN of 50 mg. % pretreatment, after treatment last NPN 62.0 but failure so severe that also receiving repeated courses of NH_4Cl + mercurials to be controlled.
Ventricular Septal Defect (inoperable) Congestive Failure & Angina	1	1	0	0	1	0	0	0	0	0	
Totals	23	14	2	3	10	8	1	1	1	3	

Satisfactory diuresis. No evidence of resistance.

** Not due to drug
* All in patients with chronic renal disease
*** Hydrodiuril

of 50 mgm. per cent, and at discontinuance of therapy almost six months later the nonprotein nitrogen was 62 mgm. per cent. This patient's failure was so severe that he also received repeated courses of ammonium chloride and mercurial diuretics to maintain a fair degree of compensation. From the graphs (Figures 3a, 3b and 3c) of 4 typical cases, it is obvious that in spite of the initial and recurrent reduction of the sodium and potassium levels, they tend to return to normal. There is a more marked reduction of the serum chloride than in the patients receiving chlorothiazide, but these levels also tend to return toward normal. When therapy was carried on for more than fourteen weeks, there was no appreciable change in the electrolyte pattern or nonprotein nitrogen.

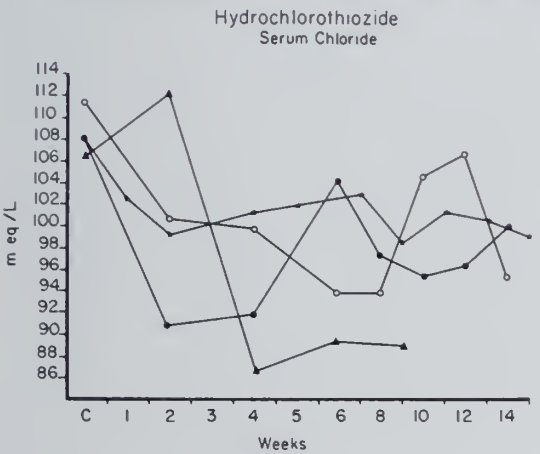


Figure 3a

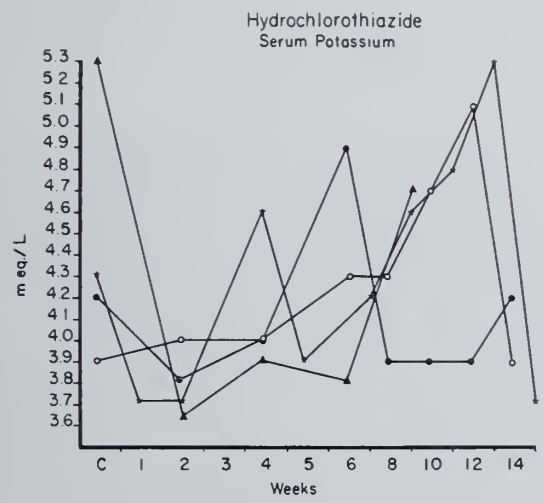


Figure 3b

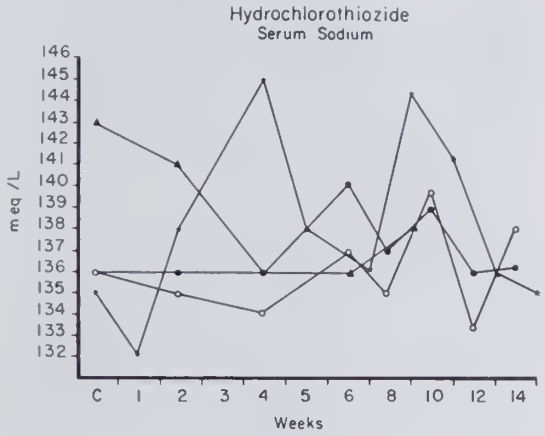


Figure 3c

Discussion

Dichlorphenamide is a carbonic anhydrase inhibitor. Carbonic anhydrase is essential for the tubular reabsorption of bicarbonate. When dichlorphenamide inhibits this enzyme, bicarbonate ions are not reabsorbed, but are excreted along with sodium and a much smaller amount of potassium. Our studies show an initial reduction in the serum sodium and CO_2 combining power with a tendency to return to normal values with prolonged therapy. According to Ford [5] chloride excretion is suppressed during the period of greatest bicarbonate excretion but increased as bicarbonate loss subsides. Our studies show that the overall change in serum chloride and potassium is insignificant. Other investigators have also reported nausea and vomiting.[6] Maintenance of an edema free state with dichlorphenamide was much more difficult than with chlorothiazide and hydrochlorothiazide. For this reason and the mentioned side effects, it has not become popular as a diuretic. Harris and associates [7] demonstrated the ability of dichlorphenamide to reduce intra-ocular tension in rabbits. Thus, it has been extensively used in the treatment of glaucoma.[6] Because of the carbon dioxide retention which occurs in chronic respiratory insufficiency, acetazoleamide has been used in its therapy with definite benefit. The development of hyperchloremic acidosis with prolonged administration has limited its effectiveness. For this reason, Naimark and asso-

ciates [8] have used dichlorphenamide with marked improvement in these cases because it presumably differs from acetazoleamide in that it is capable of producing a chloruresis so that metabolic acidosis is less likely to occur.

Chlorothiazide *in vitro* is a mild carbonic anhydrase inhibitor,[9] approximately ten times that of sulfanilamide but 1/25 that of acetazoleamide. This, however, does not play a significant part in its diuretic activity. The latter [10] is the result of its increased excretion of sodium and chloride and to a lesser extent, potassium with a secondary loss of water. The increased electrolyte excretion is presumably due to decreased tubular reabsorption which supposedly occurs chiefly in the proximal convoluted tubules. As indicated in our series, in spite of the initial and recurrent reduction in the sodium, chloride and potassium, there is a tendency with prolonged treatment for these to return to normal values.

We noted no evidence of resistance and very few side effects. Two patients noted anorexia and one patient required supplemental potassium. Other side effects reported in the literature [11] are nausea, weakness, skin rashes and epigastric pain. Hypokalemia, hypochloremia, hyponatremia, metabolic acidosis and azotemia may occur, but are usually transient. Hyperuricemia occurred initially in some of our patients, but as therapy was continued, the levels returned to normal. It is interesting to note that Oren and associates [12] have reported gout-like symptoms in 3 of their 12 patients with elevated uric acid levels while under chlorothiazide therapy. If chlorothiazide therapy results in hypokalemia in a digitalized patient, paroxysmal auricular tachycardia with block, ventricular premature beats, ventricular tachycardia and very rarely ventricular fibrillation may result. One case of choleostatic jaundice [13] and 2 cases of purpura [14] have been reported, complicating chlorothiazide therapy.

Johnston and Cornish [15] had 3 cases of acute pancreatitis which occurred during chlorothiazide therapy, but the causal relationship in these is not established. In liver disease chlorothiazide therapy has been reported to precipitate elevation of the blood ammonia, precoma and hepatic coma.[10, 16] It is stated that in liver disease potassium gluconate, limited protein intake and antibiotics may help to prevent this condition. As reported by Goldner and associates [17] the thiazide drugs may cause aggravation of pre-existing diabetes with appearance of hyperglycemia and glycosuria in a person with a familial tendency toward diabetes mellitus.

The action of hydrochlorothiazide [18, 19] is similar to chlorothiazide but it is about ten times as active. Thus, its average dose is 50 mgm., once or twice a day. As with chlorothiazide, there was in our patients initial and recurrent reductions in the serum electrolytes with a tendency to return to normal with prolonged therapy. It should be noted that the serum levels indicate an increased excretion of chloride during hydrochlorothiazide administration as compared to chlorothiazide.

From our studies there seems to be no distinct advantage to either of these drugs. In view of the electrolyte disturbances which may occur, therapy four to six days a week would seem preferable. It may be also wise in the absence of renal disease to administer potassium chloride in dosage of about 5 grains, three times a day to prevent potassium depletion. This, however, is not necessary if the dietary intake of this electrolyte is adequate. No drug resistance was demonstrated in our patients during treatment.

Summary

Dichlorphenamide, chlorothiazide, and hydrochlorothiazide were evaluated in the treatment of congestive heart failure. Resistance did not occur during treatment. Chlorothiazide and hydrochlorothiazide are the best tolerated and the most potent. There seems to be no distinct advantage to either of these at its own therapeutic range. In spite of the initial and recurrent reduction of electrolytes, there is a definite tendency with prolonged treatment for these levels to return to normal.

Therapy four to six days a week would seem preferable to allow time for the replacement of electrolytes. Supplemental potassium may be necessary in those patients taking chlorothiazide or hydrochlorothiazide with inadequate dietary intake of this ion. Patients with chronic renal disease should be very carefully followed while under diuretic therapy. Digitalized patients should be watched for the development of arrhythmias that may occur with hypokalemia.

References

1. Koch, F. C. and McMeekin, T. L.: A new direct Nesslerization micro Kjeldahl method and a modification of the Nessler Folin reagent for ammonia, J. Am. Chem. Soc. 46:2066 (September) 1924.

2. Folin, O.: The preparation of sodium tungstate free from molybdate, together with a simplified process for the preparation of a correct uric acid reagent (and some comments), J. Biol. Chem. 106:311 (August) 1934.

3. Folin, O.: Standardized methods for the determination of uric acid in unlaked blood and in urine, J. Biol. Chem. 101:111 (June) 1933.

4. Scribner, B. H.: The bedside determination of bicarbonate in serum, Proc. Staff Meet., Mayo Clin. 25: 641 (November 22) 1950.

5. Ford, R. V., and others: Choice of a diuretic agent based on pharmacological principles, J.A.M.A. 166:129 (January 11) 1958.

6. Becker, B.: Glaucoma, 1956-1957, A.M.A. Arch. Ophth. 58:862 (December) 1957.

7. Harris, J. E., Carlson, A. E., Gruber, L. and Hoskinson, G.: The aqueous serum sodium and potassium steady state ratios in the rabbit, Am. J. Ophth. 44 (pt. 2):109 (November) 1957.

8. Naimark, A., Brodovsky, D. and Cherniack, R.: The effect of a new carbonic anhydrase inhibitor (dichlorphenamide) in respiratory insufficiency, Am. J. Med. 28:368 (March) 1960.

9. Castle, C. H., Conrad, J. K. and Hecht, H. H.: Observations on the diuretic effect of chlorothiazide, A.M.A. Arch. Int. Med. 103:415 (March) 1959.

10. Ford, R. V., Moyer, J. H. and Spurr, C. L.: Clinical and laboratory observations on chlorothiazide (diuril), A.M.A. Arch. Int. Med. 100:582 (October) 1957.

11. Kirkendall, W. M.: Clinical evaluation of chlorothiazide, Circulation 19:933 (June) 1959.

12. Oren, G. W., Rich, M. and Belle, M. S.: Chlorothiazide (diuril) as a hyperuricacidemic agent, J.A.M.A. 168:2128 (December 20) 1958.

13. Drerup, A. L., Alexander, W. A., Lumb, G. D., Cummins, A. J. and Clark, G. M.: Jaundice occurring in a patient treated with chlorothiazide, New England J. Med. 259:531 (September 11) 1958.

14. Kierland, R. R.: Purpura due to chlorothiazide (diuril), J.A.M.A. 168:2264 (December 27) 1958.

15. Johnston, D. H. and Cornish, A. L.: Acute pancreatitis in patients receiving chlorothiazide, J.A.M.A. 170:2054 (August 22) 1959.

16. Magid, G. J., Levitt, S. H., Harper, H. A. and Forsham, P. H.: Ammonia intoxication in a patient with cirrhosis treated with chlorothiazide, J.A.M.A. 168: 35 (September 6) 1958.

17. Goldner, M. G., Zarowitz, H. and Akgun, S.: Hyperglycemia and glycosuria due to thiazide derivatives administered in diabetes mellitus, New England J. Med. 262:403 (February 25) 1960.

18. Ford, R. V.: The clinical pharmacology of hydrochlorothiazide, South. M. J. 52:40 (January) 1959.

19. Moyer, J. H., Fuchs, M., Irie, S. and Bodi, T.: Some observations on the pharmacology of hydrochlorothiazide, Am. J. Cardiol. 3:113 (January) 1959.

The Specific Germ of Malaria

Dr. Lauchlan Aitken of Rome writes to us: "The proof of the existence of a specific malarial germ has just received important confirmation. At the Italian Medical Congress held in September at Genoa, Dr. Marchiafava, assistant to the Professor of Pathological Anatomy at Rome, announced that he had found the bacillus malariæ in the blood of three patients during the cold stage of the malarial fever from which they suffered. Since that time, twenty-four cases have been examined, with the result, in every instance, of showing the presence of the bacillus in the blood during the period of invasion, while the spores alone could be seen when the fever was at its height. *British Medical Journal,* November 6.

New Orleans M. & S. J., 8:665, (January) 1881.

Leukemia, Some Clinical Remarks; Case Reports*

• An attempt has been made to elucidate some of the important factors concerning the etiology of leukemia, and a brief review of some of the symptomatology, classification, therapy, and a presentation of some interesting cases.

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IT is generally agreed that leukemia is a neoplastic condition of unknown cause characterized by wide spread proliferation of the leukocytes and their precursors in the tissues of the body, which invariably has a fatal termination.

Many investigators feel that there is a definite increase in incidence of leukemia. This may be true, but better methods of diagnosis and case reporting certainly play an important role in this increased incidence. Shimkin reports a general increase in leukemia in the U. S. from 40/million in 1943 to 60/million in 1951. There are other reports of similar increased incidence from England, Wales, and Denmark. Statistics from the Metropolitan Life Insurance Company show the annual death rate per million from leukemia rose from 18 in 1930 to 47 in 1951.

Etiology

The exact cause of leukemia is unknown. Some of the better known facts and concepts regarding the etiology of leukemia will be listed. First of these is the increase by 20 to 100 times the incidence of leukemia by massive total body irradiation as shown by studies of the Atomic Bomb Casualty Commission in Hiroshima and Nagasaki. Second is the increased incidence in patients treated by radiation for ankylosing spondylitis. Third, leukemia is ten times more common in radiologists than in other physicians. Leukemia is three to four times more common among other physicians than it is in the general public. Fourth, x-ray studies of the abdomen of the pregnant woman may predispose to later development of leukemia in the child. Fifth, Hueper has certainly shown that chronic benzol intoxication certainly has to be considered leukemogenic among employees so exposed to benzol, and it seems to particularly produce the granulocytic type. Sixth is that leukemia is a virus induced disease. Outstanding among these proponents is Stephen O. Swartz who is director of the hematology department at the Hektoen Institute for Medical Research, Cook County Hospital in Chicago. Seventh is other chemical agents but certainly with less good evidence said to be leukemogenic include arsenicals and sulfonamides. Eighth, a variety of infections at one time or other have been accused of producing leukemia. Other than the virus, the infections have been certain bacteria and parasites. Ninth, other factors reportedly associated with leukemic production include abdominal trauma, fractured bones, and immunizations, especially in children. Actually, most likely all these latter situations just aggravated a pre-existing or asymptomatic leukemia.

Classification

The classification of leukemic patients depends primarily on the cell type, the activity of the process, and the numerical difference affecting the circulating leukemic cells.

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Classification:

I. Cell type
   A. Lymphocyte
   B. Granulocyte
      1. Erythrocytic
      2. Megakaryocytic
      3. Fibrocytic
      4. Chloroma
      5. Eosinophilic
      6. Basophilic
   C. Monocytic
      1. Naegli type
      2. Schilling type
   D. Hemocytoblastic (reticulum or so-called 'stem cell')

II. Activity of the Process
   A. Acute
   B. Subacute
   C. Chronic

III. Leukemic Cell Count
   A. Leukemia—count above 15,000 with leukemic cells in the peripheral blood from which the diagnosis can be made.
   B. Sub - Leukemic — the leukocyte count is below 15,000 and the type cells are in the peripheral blood enough to suggest or to make the diagnosis.
   C. Aleukemic—leucocyte count is below 15,000 often normal or leukopenic, type cells are not found or in insufficient numbers to make the diagnosis from peripheral blood. Diagnosis from tissue biopsy or bone marrow aspiration only.

Symptoms

Physiologically, the chain of events in leukemia depends mainly on the infiltration of essential organs by abnormal neoplastic white cells or by interference with the production of normal white cells, red cells, or platelets in the bone marrow.

Chronic leukemia is usually very insidious in onset, of longer duration, and quite often discovered accidentally. Some of the very earliest findings may be unexplained leukocytosis, increase in granular or lymphocytic series, or unexplained anemia.

In general, as the disease progresses the patient's symptoms may be related to his anemia, the pressure of enlarged glands or organs, symptoms of increased metabolic rate, or disturbed nutrition. Hepatosplenomegaly is common in the chronic granulocytic series where adenopathy seems to be the predominant sign. Cutaneous lesions are apparently more common in the chronic lymphocytic leukemias, and these are quite widespread, which may include vesicles, wheals, bullae, petechia, papules, nodules, pruritis, exfoliative dermatitis, and herpes zoster. Chronic granulocytic leukemia is not uncommonly associated with true peptic ulceration. Occasionally in chronic leukemia the initial symptoms may be those of hematuria, back pain, amenorrhea or menorrhagia. Priapism is more common in chronic granulocytic than in chronic lymphocytic leukemia. Sternal pain and tenderness may occur in chronic granulocytic leukemia. The chronic leukemic patient may consult the orthopedic man for bone tumor, arthritis, fractures, osteomyelitis, etc.

Fundic examination in about two-thirds of the chronic leukemia patients will reveal venous engorgement, hemorrhages, exudate, and blurring of the disks. This is more common in the granulocytic series. There may be a widespread variety of neurologic symptoms and signs.

The peripheral blood in chronic granulocytic leukemias shows increased leukocytes with increased granulocytic elements from the myelocytes and the metamyelocytes to the mature polymorphonuclear leukocytes. Increased basophiles in otherwise normal blood may be the first indication of incipient leukemia. There may be no anemia to a mild anemia. The platelets may be normal or they may be increased. There may be an acquired hemolytic anemia. In general, the bone marrow is hyperplastic with an abnormally high percentage of myelocytes and promyelocytes. In chronic lymphocytic leukemia, the marrow is hyperplastic but the normal elements are almost completely replaced by small lymphocytes. In the peripheral blood in chronic lymphocytic

leukemia the white cell count is usually elevated, and there is a high percentage of mature lymphocytes.

Quite in contrast, the acute leukemias are rather sudden in onset and of short duration. They may initiate with high fever, prostration, rapidly developing anemia, and often extensive hemorrhagic manifestations. In children there may be bone, joint pain which may simulate rheumatic fever. There may be meningeal irritation with increased cerebral spinal fluid pressure. In the acute leukemias there is little adenopathy or splenomegaly. The mucous membranes in the acute leukemias frequently show purpuric manifestations, ulceration, mouth and gum infections. These are more common but by no means limited to the acute monocytic leukemias. There may be many pulmonary symptoms with mediastinal masses, tachycardia, and shortness of breath. There may be symptoms and signs suggestive of an acute nephritis. The eye grounds usually show hemorrhages.

In acute leukemia the peripheral blood usually shows a rather severe anemia, thrombocytopenia, and normal WBC, leukopenia or leukocytosis. The bleeding time is prolonged. The clot retraction is poor, and the tourniquet test is usually positive. The bone marrow itself in acute leukemia contains quite an abnormally high percentage of immature cells of the white cell series. The marrow is usually hyperplastic, but occasionally it may be hypoplastic. The normal marrow is usually completely replaced by the blast forms.

Blood uric acid and urine uric acid levels are increased more commonly in the acute lymphocytic leukemia than in the acute granulocytic series.

Therapy

The arrival at a diagnosis of leukemia in a patient is not in itself the sole criterion for the initiation of therapy. It is advisable to use some form of treatment any time the diagnosis of acute leukemia is made. A well substantiated diagnosis of chronic granulocytic leukemia is usually enough to warrant the institution of treatment. In chronic lymphocytic leukemia with the absence of progressive symptoms and signs of the disease, time is not lost by withholding treatment.

The aims of therapy are: (1) to return the bone marrow to its normally functioning state, and (2) to cause regression and disappearance of any evidences of organ infiltration by leukemic cells.

The treatment of leukemia can be classified as follows: (1) specific therapy, and (2) general or supportive measures. Specific therapy will be discussed first.

I. Specific
   A. Ionizing Radiation
      1. X-ray
         a. Regional
         b. Total body
         c. Spray
      2. Radioactive phosphorus
   B. Polyfunctional alkylating agents.
      1. HN_2-mustargen or nitrogen mustard
      2. TEM-tri ethylene melamine
      3. Busulfan — Myeleran (1-4 Dimethanesulfon oxybutane)
      4. Leukeran (Chlorambucil)
      5. Colcemide or Demecolcin (Cytostatic properties a result of mitotic inhibition)
   C. Anti-Metabolites
      1. Folic acid antagonists
         a. Methotrexate
         b. Aminopterin
      2. Purine antagonists
         a. Purinethol (6-Mercaptopurines)
         b. Thioguanine
         c. 6-Chloropurines
      3. Glutamine Antagonists
         a. Azaserine
         b. DON (6-Diazo-5-oxo-1-norleucine)
   D. Corticosteroids and Corticotropins
   E. Bone Marrow Transplants
II. General or Supportive Measures
   A. Blood transfusions — keep hemoglobin 8 grams or above
   B. Sedatives or pain relievers

C. Nutritional build-up, vitamins, proteins, etc.
D. Antibiotics—control infections
E. Splenectomy occasionally as a result of pressure symptoms, hypersplenism or hemolytic anemia
F. Psychotherapy

The chemotherapeutic agents most effective in the treatment of the acute leukemias are the antimetabolites and the adrenal steroids. The antimetabolites owe their effective mechanism to its similarity to a normal metabolite such as a vitamin or amino acid. This similarity enables it to enter the same enzyme system as a normal metabolite, but once it enters, the chemical difference is sufficient so that the reaction can go no further, and the whole enzyme system is blocked. Folic acid and other vitamins along with citrovorum factor are necessary for growth and maturation of normal erythroid and myeloid tissue of the marrow and also for the cells of some forms of acute leukemia.

Specifically, treatment with folic acid antagonists, Methotrexate, and Aminopterin causes a relative deficiency of citrovorum factor throughout the body which damages certain types of leukemic cells. Dosage of these drugs is somewhat as follows: Methotrexate 2.5 to 5 mg. daily in a child, and 5 to 10 mg. daily in an adult; Aminopterin dosage in children is 0.25 to 0.5 mg. daily, and in an adult 0.5 to 2 mg. daily. Many authors recommend Methotrexate over Aminopterin as more effective for the same degree of toxicity. Both these drugs are given by mouth. Renal function must be normal. There will be retention with increased toxicity. Duration of therapy varies three to twelve weeks depending on toxicity and effectiveness. It may be necessary to decide a dosage for maintenance therapy or intermittent therapy at the first sign of a relapse.

The purine antagonists, Purinethol, Thioguanine, and 6-Chloropurine are similar in action at the nucleic acid level by interfering with its biosynthesis. Dosage of these drugs is somewhat as follows. 6-Mercaptopurine or Purinethol 2.5 mg./kg. body weight daily, Thioguanine 2 to 2.5 mg./kg. daily, 6-Chloropurine 20 mg./kg. daily. All are given by mouth and may produce remissions in three to eight weeks of therapy.

The glutamine antagonists have also been studied for their effect on leukemia. The development of two therapeutic agents called Azazerine and DON (6-Diazo-5-oxo-1-Norleucine) have come about. Neither alone are effective in combating acute leukemia. There are reports of its effective use in connection with 6-Mercaptopurine in acute leukemia.

The hormones, ACTH, Cortisone, Compound F, and Prednisone are quite useful in the treatment of acute leukemias. This is particularly so where a rapid response is desired because of a hemorrhagic diathesis. In general, remissions from these compounds do not last as long as remission brought about by use of the antimetabolites, though there may be more remissions brought about by the hormones.

The general consensus favors the antifolic acid compounds, Methotrexate and Aminopterin, as the therapeutic agents of choice in acute leukemia of children. The glutamine acid antagonists may be used in combination with 6-Mercaptopurine. Steroids in massive doses are indicated in acute leukemia with hemorrhagic diathesis.

In adults with acute leukemia the drug of choice is Purinethol or 6-Mercaptopurine. Steroids again may be used but in general need the same hemorrhagic emergency indications.

In chronic leukemia we have a somewhat wider range of therapeutic selection. For the sake of completeness a list of chemotherapeutic agents available in the treatment of the chronic leukemias is somewhat as follows: radiation therapy in the form of x-ray or radioactive phosphorus, arsenic in the form of Fowler's solution, benzol, urethane, nitrogen mustard, TEM, TEPA, myeleran, and the purine antagonists.

If good radiation therapy either in the form of x-ray or radioactive phosphorus

is available, there is no reason why it could not be used as the sole therapeutic agent. The duration of therapy would depend, of course, upon its effectiveness, and the degree of toxicity or change in the course of the leukemia.

In chronic granulocytic leukemia the therapeutic agents of choice are felt by many to be: (1) x-ray, (2) radioactive phosphorus, (3) Myeleran, and (4) 6-Mercaptopurine.

In chronic lymphocytic leukemia where therapy is necessary, x-ray would be the treatment of choice to localized adenopathy. With a high white count and generalized glandular enlargement, spray x-ray, P_{32}, Nitrogen Mustard, TEM, and Leukeran would be the agents of choice.

In the chronic leukemias the use of steroids is reserved for treatment of such complications as hemolytic anemia, hemorrhagic diathesis, and here Prednisone is probably the drug of choice. Splenectomy may be indicated in hemolytic anemia, hypersplenism, pressure symptoms from an enlarged spleen.

A change from radiation to a chemotherapeutic agent or from one chemotherapeutic agent to another may be initiated by a lack of response to one agent, toxic effects of the agent used, or sudden change in the leukemic picture.

All the above mentioned drugs used in leukemia are toxic. It is beyond the concepts of this paper to discuss the toxic effects of each one, but in general they are local irritants to the gastrointestinal tract, they can cause bone marrow depression, and they can cause hepatoxic effects. All of these things have to be watched very carefully with frequent platelet counts, frequent hemoglobins, red cell count, white and differentials, and occasional bone marrow biopsy not only from a toxic standpoint but also to follow the course of the leukemic process itself.

Total care of the leukemic patient must be emphasized. Control of his infections, keep him transfused up to 8 or 9 grams of hemoglobin, adequate sedation, pain relievers, relieve any increased uric acid level, and any threat of kidney shut down by hyperuricuria. Psychotherapy is often times as important or more important than the specific anti-leukemic agent being used.

Prognosis

The outlook in leukemia is dependent on many factors, among which are: (1) activity of the process, (2) early diagnosis, (3) available therapy, (4) the individual response, and (5) the age of the patient.

In general, the outcome in chronic lymphocytic leukemia is longer than that as a rule in chronic myelogenous. Early reports, in 1939, showed chronic granulocytice patients lived usually 3.28 years, chronic lymphocytic patients lived 3.29 years. In 1953, the chronic granulocytics had an average of 3.2 years and the chronic lymphocytic had an average of 5.4 years. A wide range of survival time is generally noted. In any case of chronic leukemia 22 per cent survive longer than five years. Six per cent will survive longer than ten years, and about 0.8 per cent twenty years or longer.

In acute leukemia the survival time varies widely in the child in comparison to the adult. In untreated acute leukemia in children they usually survive about 3.9 months. In 1952 and 1955, when folic acid, purine, and glutamine antagonists as well as adrenal steroids were available as therapeutic tools, the mean survival time was 12.4 months. More children have remissions as a rule as a result of therapy than do adults. The total time of remission in each case, however, is usually no greater.

Acute leukemia in adults treated at Memorial Center prior to the 'antagonists' era was six months. No significant difference occurred when the purine antagonists were available. Among those who did have periods of remission they had a mean survival time of 8 to 11 months.

Case Reports

Case No. 1.—M.B.M. who first gave a history of pain in the left upper quadrant of his abdomen and his left supraclavicular area back in October 1949. Examination at that time revealed moderate splenomegaly and some small, shoddy

lymph nodes palpable bilaterally in the axilla, the inguinal regions, and both epitrochlear areas. His peripheral blood and bone marrow studies were compatible with a diagnosis of chronic myelogenous leukemia.

The choice of therapy here was regional x-ray therapy, and he responded quite well to very small amounts of therapy. The organ principally treated was the spleen. This man did extremely well on deep x-ray therapy intermittently until September 1956, when it was felt that he was no longer responsive to x-ray therapy and had developed rather toxic effects from each small treatment.

He at this time was placed on Myeleran 2 mg. twice daily. He did quite well on Myeleran until January 1957 and then he was switched to Purinethol, mainly because of the lack of his response to Myeleran and the development of some toxic gastrointestinal symptoms as the result of Myeleran therapy. Terminally, the patient developed a rather marked anemia, at times a normal white count, and at times a leukopenia, thrombocytopenia, and soreness in his mouth with infection of his teeth and gums. The patient expired on March 22, 1957.

Case No. 2.—L.L.D, white male, age 50 years. He was first seen on March 12, 1952. At that time he complained of weakness, loss of pep and energy, noticed some peculiar spots on his skin. His general physical examination revealed some signs compatible with anemia, he had petechia on his extremities, and a scattered ecchymotic lesion. There were no nodes, liver, or spleen palpable. The spleen did become palpable terminally.

Peripheral blood showed 8 grams hemoglobin, 2½ million red blood cells, total white blood cells of 3100. His platelet count was 38,570. His differential showed 1 juvenile, 6 bands, 13 segmenters, 9 eosinophils, 51 small lymphocytes, and 20 atypical lymphocytes. Bone marrow study done on March 13, 1952, showed findings compatible with a diagnosis of an acute leukemia, most likely a Naegli variant of myelogenous leukemia.

Treatment consisted of massive doses of cortisone, frequent blood transfusions, and supportive measures. Patient expired on May 13, 1952, with terminal pneumonia, septicemia, and gastrointestinal hemorrhage. Autopsy showed that the patient's death was due to an acute leukemia, most likely a Naegli variant of myelogenous leukemia.

Case No. 3.—W.M., 70 year old white male, who was first seen on May 12, 1953. His main complaints were burning, cramping, mid-abdominal pain with radiating soreness in the left upper quadrant and pain in the left shoulder. He had noticed a decreased pep and energy for three to four weeks. He had had what he termed a bad cold since March 1953, seemed to be unable to get over it. In the past he had had chronic bronchial asthma and bronchitis with some degree of emphysema.

Significant physical findings showed evidence of mild anemia and a splenomegaly. Peripheral blood showed 11 grams hemoglobin, 3 million red blood cells, a platelet count of 77,700, and a total white count of 100,500. The impression from the peripheral blood study was acute leukemia, Naegli variant of myelogenous leukemia, with only about five percent differentiated segmenters, a few lymphocytes, remainder of the leukocytes being immature, majority blasts and undifferentiated monocytoid granulocytes. Patient was hospitalized. Treatment consisted of frequent blood transfusions and cortisone in moderate dosage.

Patient expired on May 28, 1953, of a hemorrhagic diathesis. Known duration of the disease two weeks; suspected duration, approximately three months.

Case No. 4.—B.C., 34 year old housewife, of Cherokee Indian descent. In January 1954 complete physical examination and work-up for insurance including a blood count on this patient was perfectly normal. In June 1954 the patient developed pain in the right leg. Check-up for polio and hospitalization was done which revealed an 85,000 white cell count. Sternal bone marrow confirmed the suspicion that the patient had leukemia and well labeled this leukemia as chronic myelogenous. Because of the absence of hepatosplenomegaly or enlarged glands, it was elected to treat the patient with radioactive phosphorus. The patient was maintained very well on small doses of radioactive phosphorus throughout 1954, 1955, 1956, and 1957.

In 1955 the patient became pregnant. A normal male child was delivered at full term from below on June 12, 1956. The only treatment given during the time of pregnancy was blood transfusions and only about two then. The patient had several miscarriages during the remainder of her leukemia. In July 1958 the peripheral blood began to show more blast forms and more anemia.

At this time radioactive phosphorus was stopped, and the patient was begun on Purinethol. The patient was unable to take the Purinethol because of gastrointestinal symptoms and some rather marked depression of the bone marrow. This medication was promptly stopped, and Myeleran was begun. On Myeleran therapy this patient did amazingly well throughout 1958 and 1959.

Her terminal illness began in December 1959. She had a very confusing peripheral blood picture in that she had rather marked decrease in her platelet count, marked increase in her anemia, and a rather marked drop in her white count with the presence intermittently of many blast forms. Hematological consultant at that

time was unable to decide whether the patient had metastatic malignant process or a most unusual complication of chronic granulocytic leukemia, that of myelosclerosis. My own feeling was that the patient's bone marrow had just pooped out. Terminally, this patient had evidence of an overwhelming pulmonary infection, a great deal of mouth infection, and she went into congestive heart failure. Patient expired on January 11, 1960. The pathologist at autopsy felt that the patient died of terminal heart failure with bilateral pulmonary edema congestion and diffuse pneumonitis. She had evidence of chronic myelogenous leukemia. At the time of autopsy the bone marrow was quite fibrotic, and the spleen and lymph nodes had apparently taken over largely the production of blood cells.

Case No. 5.—E.L., 59 year old white male, who had been a patient of mine for some time, having been treated for obesity, hypertension with hypertensive cardiovascular disease, coronary heart disease, gall stones, hypertrophic arthritis of the spine. He was an x-ray technician.

In January 1956, he entered the hospital with symptoms and signs compatible with acute congestive heart failure. In addition to this, he had evidence of hepatosplenomegaly which remained so throughout his illness. His white blood count at that time was found to be 197,200. He had had previous CBC's within a year which were reported as normal. In addition to his marked leukocytosis, he had a moderate normocytic, normochromic anemia.

Myeleran was elected as the therapeutic agent. Initially, he showed some fairly good response to Myeleran but soon it was most ineffective. Purinethol was then tried, but gastrointestinal toxicity prevented its continued use. Some deep x-ray therapy was given with very little or no response. He was placed again on Myeleran. Terminally, he developed rather marked anemia and thrombocytopenia and varying white counts.

Terminally, he was treated with rather massive doses of cortisone with little or no benefit. The patient expired on November 26, 1956. Autopsy on this patient showed that the immediate cause of death was a recent thrombosis of the right coronary artery. In addition to this, the patient had chronic myelogenous leukemia which apparently was superimposed on the primary Hodgkins' disease. The diagnosis of Hodgkins' disease had been made from mediastinal and aortic node removed post mortem.

Case No. 6.—B.M., 53 year old white female, first seen by me in March 1956. Chief complaint at that time was coughing and a cold. Cold had been present for four to six months duration, lately had been febrile. Significant physical findings included a blood pressure of 220/60, bilateral basal rales, heart clinically enlarged to the left with both aortic and mitral systolic lesions.

Patient was hospitalized, and while there a complete work-up was done. Final conclusions were that she had arteriosclerotic heart disease and an interstitial type of pneumonitis. While in the hospital hematologically she had a very mild anemia and her white count was in the neighborhood of 20,000, and there was a predominant lymphocytosis. This did not change following improvement, and a bone marrow aspiration was done which showed chronic lymphatic leukemia with partial replacement of the myeloid elements including the megakaryocytes. However, her peripheral platelet had been and has remained normal. There was no significant adenopathy or hepatosplenomegaly.

Patient did extremely well, however, during 1956 her anemia gradually increased. Her white count went up to 40,000, and for this reason, plus some dypsnea and weakness, therapy was started. I elected to use radioactive phosphorus because of the absence of lymphadenopathy and hepatosplenomegaly. Besides that, I wanted to see how she would do on it. In January 1957, she was given 2 millicuries of P_{32} intravenously. This was repeated again in November 1957. Both her white count and differential have returned to fairly normal, even though she still had predominant lymphocytes. She has a very mild anemia but still no adenopathy or hepatosplenomegaly. Recently, the patient developed hematuria which was apparently due to a chronic urethritis. Platelet counts were normal as well as other peripheral blood studies. She has also developed very mild diabetes mellitus, controlled by the oral hypoglycemic agents. Patient was last seen on March 18, 1960, and she was still doing well.

Case No. 7.—A.W. 70 year old white female, whom I had treated intermittently for some nine or ten years. The patient had a brother who died of chronic lymphatic leukemia. She had been treated for mild hypertension and arteriosclerosis, mild degree of coronary heart disease, and a degree of chronic anxiety. In early 1956, this patient suffered a cerebral thrombosis with residual aphasia and a right hemiplegia. Over a period of time the patient had practically no return of any function of her right side. She was bedridden from the onset of her illness until her death. At the onset of her cerebral apoplexy the patient had no hematological abnormality. In May 1956, the patient was admitted to the hospital for routine studies, and it was at that time the patient was found to have a 31,850 white count with 84 per cent lymphocytes. There was no anemia; there was no thrombocytopenia. There was mild hepatosplenomegaly present.

Bone marrow study done on November 9, 1956 showed marked increase in numbers of lymphocytes. It was the feeling of the pathologist that the patient had chronic lymphocytic leukemia. The patient's leukemia was not treated at all. Occasional CBC showed the gradual development

of a more severe normocytic, normochromic anemia and increase in the white count to as high as 60,000, with predominantly large lymphocytes as high as 92 per cent.

Patient had a fairly stormy course for a year or so with the increasing anemia, gradually increasing hepatosplenomegaly, and frequent bouts of urinary tract infection and occasional episode of pneumonia. She died on November 19, 1958, of overwhelming infection, congestive heart failure, and pneumonia.

Case No. 8.—L.B.H., 61 year old white male who was first seen by me on February 26, 1958. This man's initial complaint was shortness of breath. His general physical findings showed evidence of emphysema and mild hepatosplenomegaly. This remained throughout the course of his illness. It was felt then and throughout his illness that his shortness of breath was mainly related to his emphysema and not his anemia or any cardiovascular disease. This is a very interesting case in that this man worked for one of the industrial plants here and had had a lot of routine blood counts, in fact, had had a blood count every year, along with chest x-rays, routine surveys probably for ten years or more. These were gone over, and the first significant findings were on April 21, 1954, at which time he had an essentially normal hemoglobin, hematocrit, red blood cell count. His white cell count at that time was 10,000. He had 38 segmenters, 58 lymphocytes, and 4 eosinophils as a differential. Again on January 6, 1955, he had a white count of 8350 and segmenters 42, lymphocytes 49, monocytes 6, and eosinophils 3. The red blood cell series was perfectly normal. In May 1957, he first developed a mild to moderate normocytic, normochromic anemia with mild leukopenia and moderate increase in the lymphocytes with what appeared to be a definite decrease in his granulocytic series. Platelets in October 1957 were reported as 220,000. Bone marrow studies in October 1957 were reported as normal. Patient had numerous CBC's throughout the remainder of 1957 and 1958. They were all characterized by normocytic, normochromic anemia, leukopenia, and thrombocytopenia.

Patient had bone marrow aspirations, in March 1958, which showed a moderate left shift of the granulocytic series with increase in lymphoid elements. Megakaryocytes appeared depressed. Picture was suggestive of developing leukemia. Bone marrow biopsy was again repeated by a hematological consultant in August 1958. No definite diagnosis was made. Bone marrow aspiration was again done in November 1958. The crushed elements at that time were considered to be diagnostic of acute myelogenous leukemia with blast forms predominating. At this time the patient had a rather marked drop in his peripheral platelets and increase in his anemia. He showed some petechia and occasional ecchymotic spot.

He was hospitalized and treated with large doses of Prednisone and 6-Mercaptopurine or Purinethol. Patient made no signs of remission and expired on December 25, 1958, with pneumonia and gastrointestinal and cerebral hemorrhages.

Case No. 9.—D.C.B., 84 year old general practitioner, who was first seen in April 1955. In April 1955, this white male physician was hospitalized with rather severe right fourth, fifth, sixth, and seventh intercostal herpes zoster. Significant hematologic findings at that time consisted of a very mild normocytic, normochromic anemia and a slight left shift with an increase in his small lymphocytes. At the time of his hospitalization his peripheral blood study other than the above mentioned findings was essentially negative. His platelet count was normal.

The possibility that he might be developing a leukemia was explained to him but bone marrow aspiration was not done. During the remainder of 1955, 1956, and 1957, he did quite well. All his blood pictures continued to show a mild to moderate anemia and occasional leukopenia and an increase in sedimentation rate. He also frequently had an increase in his small lymphocytes and monocytes. The monocytes themselves once got as high as 12 per cent. There was no adenopathy or hepatosplenomegaly.

On February 15, 1958, this physician was hospitalized with a fractured right hip. At that time hematologically he showed a mild normocytic, normochromic anemia, sedimentation rate of 42 mm hour Westergreen method, total white count of 13,200 with a differential of 77 neutrophils, 6 lymphocytes, and 17 monocytes. His hip was nailed on February 16, 1958. Postoperatively the patient had a very stormy course with the rapid development of anemia, leukopenia, thrombocytopenia, and a marked increase in his neutrophils with some very early forms appearing in the peripheral smear. It was felt that he had probably developed an acute to subacute myelogenous leukemia. There were some unusual changes in that his white count suddenly jumped from a leukopenia to a marked leukocytosis with one count being as high as 170,000. The patient developed rather marked pyuria, hematuria, albuminaria, went into uremia, and expired on March 23, 1958. The only treatment given in this situation for his apparent leukemia was rather large doses of cortisone and blood transfusions.

Autopsy was performed on March 23, 1958. The significant findings here were acute pyelonephritis with abcess formation and hemorrhagic necrosis in the right kidney. He had bilateral kidney stones, coronary heart disease, and acute to subacute myelogenous leukemia as proven by

bone marrow aspiration post mortem.

Case No. 10.—A.B., 25 year old white housewife, first seen by me on September 23, 1959. Her chief complaints were spots on her legs, spots before her eyes, and a weak feeling. These had only been present for three or four days' duration. System review here revealed the fact that the patient had been having menorrhagia for four or five months and had just sought attention from the gynecologist who did a platelet count on her and found the platelet count to be 72,000.

The patient had had an appendectomy in August 1957, at which time hematologically everything appeared perfectly normal. The physical findings, in September 1959, included petechia and ecchymoses scattered over most of her body and mucous membranes and a barely palpable spleen. Her peripheral blood picture showed a marked normocytic, normochromic anemia with a hematocrit of only 20. Her total white count was 2800. She had 93 per cent lymphocytes and 7 per cent neutrophils. There was a marked thrombocytopenia with only 30,000 platelets. The bleeding time was prolonged.

The pathologist interpreted the crushed marrow elements as presenting a picture of chronic myelogenous leukemia. The marrow was hyperplastic and large particles were aspirated. Certainly, clinically, we felt that this patient had acute myelogenous leukemia. Certainly, from a clinical standpoint this was an acute process and not a chronic one. It was elected to treat the patient with blood transfusions and large doses of Prednisone. This was done, and as far as a remission from her leukemia, it was not shown. Next, 6-Mercaptopurine or Purinethol was tried. There was no benefit from this. Then we tried rather massive doses of Chloromycetin with no response. We also tried rather large doses of ACTH. There was no response to any type of therapy. The patient continued to run a severe anemia, leukopenia, and thrombocytopenia.

Patient expired on November 7, 1959. Post mortem examination was done, and the final conclusion was that the patient died of acute myelogenous leukemia. The bone marrow at post mortem examination was grossly depleted.

Case No. 11.—L.G., 51 year old white female, first seen by me on January 6, 1960. Her chief complaint was that of weakness and pain in the right side. It is quite interesting that this patient gave a history of her husband's dying rather suddenly about a year or a year and a half prior to admission and having lost two children by drowning approximately three months months prior to admission. In March 1957, the patient had had a radical mastectomy for carcinoma of the left breast. She apparently had no deep x-ray therapy at that time. It is interesting to note that prior to her surgery, in 1957, a review of her chart shows that she had a hypochromic anemia, a total white count of 19,000 with 31 per cent neutrophils, 68 per cent small lymphocytes, and 1 monocyte. There were a few macrolymphocytes, not considered diagnostic.

No repeat blood study was done until the patient's admission to the hospital in January 1960. Significant physical findings at that time included a degree of emaciation and a very large firm nodular liver and icterus. Her CBC was very interesting in that it showed a moderately severe normocytic, normochromic anemia, a total white count of 113,500 with 97 per cent lymphocytes. The platelet counts were slightly reduced. The examining pathologist felt that there was no doubt that the patient had chronic lymphocytic leukemia. No bone marrow aspiration prior to death was done. The patient rapidly developed jaundice, ascites, evidence of liver failure, and then into liver coma. No treatment for the leukemia was instituted. Patient died on January 15, 1960. Post mortem examination showed extensive replacement of the liver by metastatic adenocarcinoma. The bone marrow showed evidence of chronic lymphatic leukemia.

Case No. 12.—T.J.P., 61 year old male farmer, who complained to the dermatologist of boils on his skin intermittently for five or six weeks with poor healing, and glands had been swollen scattered about over his body for two years or longer without any pain.

It is interesting to note that this man had three brothers who had died of proven Hodgkins' disease.

Significant physical findings included a blood pressure of 164/94, generalized multiple small furuncles, a barely palpable liver, and moderate to large generalized adenopathy, principally the cervical, submaxillary areas, axillary glands, and the inguinal glands.

CBC showed normal hemoglobin, red blood cell count. His total white blood cell count was 49,000. He had 3 segmenters, 6 eosinophils, 76 small lymphocytes, and 15 large lymphocytes. Platelet count was normal.

Bone marrow aspiration showed normal marrow elements partially replaced by lymphoid series represented a lymphatic leukemia. Because of the generalized lymphadenopathy, I elected to treat him with Chlorambucil (Leukeran). He was started on 8 mgs. daily. Patient received continuous therapy for about six weeks. His nodes decreased markedly in size to where there were only a few cervical and one or two inguinal nodes palpable. His last WBC was 17,800 with a marked change to a more normal differential. The patient's furuncles completely disappeared without any antibiotic therapy. Patient feels well. He has maintained his weight, and he states he is awfully glad that he did not have Hodgkin's disease like his brothers.

An attempt has been made to elucidate some of the important factors concerned in the etiology of leukemia, and a brief review of some of the symptomatology, classification, therapy, and a presentation of some interesting cases.

References

1. Shimkin, M. D.: Hodgkins' Disease, Mortality in U. S. 1921 1951, Comparison with Leukemia. Blood. 10: 1214, 1955.
2. Recent Trends in Leukemia, Statistical Bulletin, Metropolitan Life Insurance Company, 36:3, 1955.
3. Wintrobe: Clinical Hematology, 5th Edition, 1956.
4. Court Brown, W. M. and Abbott, J. D.: The Incidence of Leukemia in Ankylosing Spondylitis Treated with X ray; A Preliminary Report. Lancet, 268:1283, 1955.
5. Kaplan, H. S.: On the Etiology and Pathogenesis of the Leukemias, A Review, Cavier Res. 14:535, 1954.
6. Folley, J. H., Borges, W., and Yamawaki, T.: Incidence of Leukemia in Survivors of the Atomic Bomb In Hiroshima and Nagasaki, Japan. Amer. J. Med. 13: 311, 1952.
7. Schwartz, S. O.: Etiology of Leukemia, A Case for the Virus Theory, Blood 11:1045, 1956.
8. Proceedings of the Second Conference on Folic Acid Antagonists in the Treatment of Leukemia. Blood (Suppl.) 1952.
9. Burchenal, J. H., Murphy, M. L. and Tan, C. T. C.: One Treatment of Acute Leukemia, Pediatrics 18:613, 1956.
10. Ellison, R. R.: Management of Acute Leukemia in Adults. M. Clin. N. America 40:743, 1956.
11. Burchenal, J. H. and Diamond, Henry D.: Leukemia and Lymphoma. Disease-a Month, January 1958.
12. Hill, J. M., Marshall, S. J., Falio, D. J.: Massive Prednisone and Prednisolone Therapy in Leukemia and Lymphomas in the Adult. J. Ameri. Geriatric Society, Vol. IV #7 (July) 1956.
13. Bethell, F. H., Meyers, M. D., Bishop, R. C., Spencer, H. H.: Advances in the Treatment of Leukemia. J. Michigan State M. Soc., Vol. 38, April 1959.
14. Rundles, R. W., Grizzle, J., and others: Comparison of Chlorambucil and Myeleran in Chronic Lymphocytic and Granulocytic Leukemia. Amer. J. Med., 27: 424 (September) 1959.
15. Frelnck, R. W.: Myeleran Treatment of Chronic Granulocytic Leukemia. Delaware State M. J., Vol 28 #10, 28:225 (October) 1956.
16. Wallerstein, R. O., Aggeler, P. M., Hoag, M. S.: Chemotherapy of Leukemia and Lymphoma. Amer. M. Women's Assoc., 12:417 (December) 1957.
17. Miller, D. G., Diamond, H. D., Crover, L. H.: A Critical Study of the Clinical Use of Chlorambucil. New England J. Med., 261:525 (September 10) 1959.
18. Bethell, F. H.: The Relative Frequency of the Several Types of Chronic Leukemia and Their Management, J. Chr. Dis., 6:403 (October) 1957.
19. Miale, Jalu B.: Laboratory Medicine Hematology. The C. V. Mosby Company, 1958.
20. Custer, R. Philip: An Atlas of the Blood and Bone Marrow. W. B. Saunders Company, 1959.

Discussion

Dr. Daniel W. Hayes (New Orleans): The interesting and very useful paper that Dr. Mack has presented brings up many of the well known and some of the lesser known facts about leukemia. There are several comments that I wish to make to emphasize some of the points that Dr. Mack has brought out.

In the experience that we have had at Charity Hospital, as in most centers, the chronic lymphocytic leukemia is usually associated with large nodes; whereas in chronic granulocytic leukemia, enlargement of the spleen and liver are more common. Hemolytic anemia is much more common in chronic lymphocytic leukemia than in granulocytic leukemia. The problem of whether or not to treat the chronic lymphocytic leukemia is still not entirely settled. Many men prefer to withhold treatment until there are signs of a progressing disease or symptoms related to the disease. Others, however, feel that one keeps the patient under better control by treating them at intervals with either small doses of radiation or TEM. Otherwise, I am in full accord with Dr. Mack's outline for treatment of the leukemias. We commonly have to switch from one agent to another after treatment becomes ineffective and in many cases of acute leukemia, a combination of therapy, usually of one of the stercids with another toxic agent, is necessary. Considerable courage is needed for the treatment of acute leukemia, for many times one has to treat the leukemia with a very low peripheral white count and yet a marrow which is known to be packed full of immature cells. Here one cannot rely entirely upon the peripheral blood count to guide one in the proper dosage and timing of the therapy. At the present time our practice is to initiate therapy with a drug other than the steroids in acute leukemia unless they are moribund, in which case a dramatic response usually will be forthcoming with the initial use of steroids.

I shall not comment individually on the cases presented, except to note that they furnish a fascinating cross-section of the many problems which one encounters in treating patients with blood dyscrasias.

An Effective, Well Tolerated New Antihistamine, Dimethpyrindene Maleate*

• A report on one hundred and forty-two patients treated with various forms of this new drug and the results obtained.

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ALLERGY is a major national health problem, ranking third in prevalence among chronic diseases. According to the Allergy Foundation of America, more than 17,000,000 children and adults suffer from allergic diseases in one form or another ranging from mild to severe hay fever, drug reactions, "collagen diseases" and mild to severe bronchial asthma. Add to this total the many so-called minor allergic episodes with plant exposures and insect bites, industrial irritants, etc., and one finds more than half our population suffering from allergic problems at one time or another.

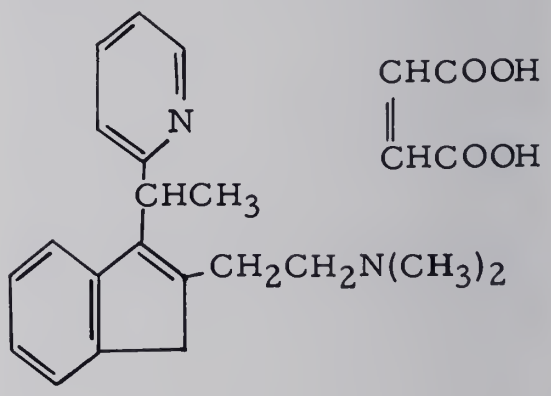
Thirty-two years after the first histamine antagonist was synthesized by Forneau, in 1942, there appeared Halpern's report upon the first antihistamine that was sufficiently well tolerated to be clinically useful. Since that time a considerable number of antihistamines have been developed and brought to effective therapeutic application; most of these fall into three chemical groups: the ethylenediamines, ethanolamines and monamines. The remaining few good antihistamines are of unrelated chemical derivation. Since patient response remains variable, most allergists practice antihistamine rotation in order to avoid the development of tolerance and to choose the most effective compound for a specific patient's condition.

Recent chemical and pharmacological reports [1, 2] on a new type of agent exhibiting potent histaminolytic activity with a longer duration of action than several widely used antihistamines (tripelennamine, chlorprophenpyridamine or dextrochlorpheniramine) aroused our interest. This drug, dimethpyrindene maleate, is a member of the indene series and has the structural formula shown in Figure 1.

Laboratory tests for determining its antihistaminic activity and oral ED_{50} (dose which protects 50 per cent of a group of guinea pigs against a standard lethal dose of histamine) revealed results as in Table 1.

The drug is rapidly absorbed orally and appears to be exceptionally free of sedative or other central nervous system effects.

In addition to reports upon hundreds of patients submitted to the Research Department of Ciba, several clinical pa-



Dimethpyrindene*

*Forhistal, CIBA

Figure 1

* Forhistal, T. M., Ciba Pharmaceutical Products Inc.

TABLE 1

ED_{50} VALUES (mg./kg.)

Drug Orally	At 1 Hour	At 3 Hours
Dimethpyrindene (Forhistal)	0.0664±0.011	0.243±0.037
Tripelennamine	2.63 ±1.25	11.4 ±2.6
Chlorpropenpyridamine	0.116 ±0.035	0.648±0.070
Dextro-Chlorpheniramine	0.139 ±0.02	0.272±0.028

pers [3 6] have confirmed the high therapeutic activity of dimethpyrindene, noting its effectiveness in dosages as low as 1 to 2 mg. two to four times daily as uncoated tablets or in liquid forms, or 2.5 mg. every eight to twelve hours as the Lontabs. These publications note the low incidence of side effects and absence of any unusual types. Drowsiness, when encountered, usually diminished with continued use of the drug or was eliminated by adjustment of dosage.

Patient Selection and Method of Therapy

Our pilot study of the drug in 15 patients showed it to have excellent potential as an antihistamine. It was effective in controlling sneezing and rhinorrhea associated with nasal allergies, and in several such cases, the drying effect was particularly useful in promoting a better nasal airway.

Since the drug appeared promising and the early seasonal allergies were upon us in our section of the country, we took the opportunity for an extended evaluation of this agent in individuals suffering from various allergic manifestations. Allergic complaints included perennial rhinitis, seasonal hay fever, pruritus, dermatologic drug reaction and other skin problems.

A total of 142 adults, children and infants comprise the group being reported here. Various dosage forms were utilized according to the patient's age and the condition under treatment, as follows:

1. Regular tablets, 1 mg.
2. Lontabs, 2.5 mg.
3. Syrup, 1 mg./5ml. teaspoonful
4. Pediatric Solution, 0.5 mg./0.6 ml. (calibrated dropper)
5. Injectable Solution, 1 mg./ml.

Serial blood counts and urinalyses were done upon approximately one-quarter of this group of patients, under treatment for from six weeks to eight months, with no abnormalities noted.

Results

These have been grouped arbitrarily on the basis of dosage forms with which treatment was begun; diagnoses are mixed within each of the four groups.

A. One hundred patients were treated initially with the plain tablets; 12 of these also received one or more intramuscular or subcutaneous injections during severe episodes. Of this group, 92 showed "good" to "excellent" response with individually optimum dosage, while eight had "poor" symptomatic control at any dosage level.

The only side effects noted were undue dryness of the mouth (1) and drowsiness (10). Of those who reported drowsiness, all but 2 were relieved upon adjustment of dosage, with retention of therapeutic response.

Dosage range was 0.5 mg. to 1 mg. two to four times daily.

B. Twenty-three patients were treated initially with Lontabs; 20 had "good" to "excellent" results. The three patients who had "poor" response were also those reporting side effects in this group, 1 having dryness of the mouth and 2 having drowsiness. It bears mentioning that since these 3 patients received poor symtomatic control and had side effects, they were understandably unwilling to await dosage manipulation results and were changed to other therapy.

Dosage range was one Lontab one to three times daily.

C. Fourteen patients between five and thirteen years of age were given dimethpyrindene in the form of the syrup. Response was "good" to "excellent" in 11 and "poor" in 3; there were no side effects.

Dosage range was 0.5 mg. to 1 mg. three times daily.

D. Five children aged 18 months to 4½ years received the Pediatric Solution

with "good" to "excellent" response in all. There were no side effects.

Choice of dosage forms, as noted earlier, is for the most part governed by convenience and patient acceptance. The liquid preparations are especially suitable for children, with the calibrated dropper for the pediatric solution making accurate dosage simple for administration to infants. Since dimethpyrindene itself is practically tasteless and has no significant local anesthetic action in the forms utilized in our study, there has been no difficulty from these standpoints.

The Lontabs afford greater convenience for any patient who can take tablets, besides which we have noted that some individuals who had drowsiness initially upon the plain 1 mg. tablets were relieved of drowsiness and had equal symptomatic relief when changed over to Lontab medication. This is believed to be on the basis of very even release rates of the active drug over about eight hours in patients, confirming the in vitro findings.

Parenteral medication obviously is indicated for severe episodes such as acute urticaria and in connection with specific hyposensitization procedures.

Discussion

While neither this nor any other antihistamine is intended to replace more specific therapy, dimethpyrindene in our experience constitutes an excellent adjunct to the treatment of many allergic problems.

Headaches, eustachianitis, serous otitis media, and other complications of sinus and nasal allergies may be alleviated or even prevented by suitable use of dimethpyrindene.

Urticarial drug reactions, such as to penicillin, generally respond very well to parenteral and oral therapy with this new antihistamine. Pruritus associated with such reactions, or with other forms of allergy usually is relieved promptly under this therapy.

Dosage must be adjusted on an individual basis; the aim is that of utilizing the lowest effective dosage, but if early response is inadequate higher dosages usually are well tolerated. If drowsiness occurs it tends to be transient or is eliminated by lowering of dosage or changing to the Lontab formulation.

Children above the age of about 2 years tolerate dimethpyrindene well in dosages substantially the same as for adults in our experience. As noted previously, absence of unpleasant taste facilitates patient acceptance especially among the younger group.

For children under two years of age, dosage (as Pediatric Solution, dropper bottles) ranged from 0.25 mg. to 0.5 mg. t.i.d.

Summary and Conclusions

One hundred and forty-two allergic patients, adults, children and infants, were treated with dimethpyrindene (Forhistal), a new antihistamine of high potency and low toxicity. It was found generally effective in low dosage. As to side effects, we concur in the finding that these are relatively few and minor; drowsiness, the commonest side effect, occurred in only a small percentage of patients and in some was transient. If it persisted, adjustment of dosage usually eliminated drowsiness.

Dimethpyrindene, in our opinion, equals and perhaps surpasses the best and most widely used antihistamine drugs available today. Our clinical use of it is continuing and expanding and we commend it to the attention of the profession in general.

References

1. Barrett, W. E., Hueber, C. F., Plummer, A. J. and Deitrich, A.: Pharmacology of a New, Potent, Orally Active Antihistaminic Drug, Su-6518. The Pharmacologist, Vol. 1, #2, page 60E, Fall 1959.

2. Huebner, C. F., Donoghue, E., Wenk, P., Sury, E. and Nelson, J. A.: A New Class of Highly Active Antihistaminics. Presented at American Chemical Society meetings, April 1960.

3. Hartman, M. M.: Therapeutic Tests in Allergy—Their Feasibility and Limitations. Presented at California Medical Association meetings, December 1959.

4. Committee on Drugs, American Academy of Allergy (reported at Academy meetings, January 1960): Journal of Allergy, 283, May-June 1960.

5. Thomas, J. W. and Kelly, F. R., Jr.: A Clinical Study of a New Antihistamine, Dimethpyrindene (Forhistal). Presented at American College of Allergists meetings, March 1960. In press, Ann. Allergy.

A New Antihistamine, Dimethpyrindene, Southern M. J., 6. Carpenter, C. L., Neder, G. W. and Derbes, V. J.: August 1960, Vol. 53, #8, page 1017.

7. Schiller, Irving: Preliminary Experience with Dimethpyrindene (Forhistal®), a New Antihistamine, in the Treatment of Seasonal Allergic Rhinitis. Bulletin of Tufts New England Medical Center, VI, 83-86, April-June 1960.

8. Bubert, H. M.: A New, Potent Antihistamine, Dimethpyrindene. Maryland State M. J., 9, #7, July 1960.

Table of the Local Medical Societies in Louisiana

PARISHES	NAME OF SOCIETIES	WHEN FOUNDED
Ascension	Ascension Medical Society	1879
Avoyelles		1878
Bienville	Bienville Medical Society	May 1878
Caddo	Shreveport Medical Society	January 1866
E. Baton Rouge	Med. Assn. of Baton Rouge	1874
E. Feliciana	E. Feliciana Med. Assn.	
Grant	Red River Med. Assn.	1877
Attakapas Parishes	Attakapas Med. Assn.	1879
Iberville	Iberville Med. Assn.	March 1878
Lafayette	Lafayette Med. Society	1877
Madison	Madison Par. Med. Assn.	1880
Orleans	Orleans Par. Med. Society	April 1878
Orleans	N. O. Med. and Surg. Assn.	December 1873
Plaquemines	Plaquemines Par. Med. and Sur. Assn.	1875
Pointe Coupee	Med. Assn. of Par. of Pointe Coupee	
St. Landry	St. Landry Med. Society	About 1871

New Orleans M. & S. J. 8:1096 (May) 1881.

A Study of the Psychiatric Effects of Placebo*

• A clinical evaluation of the effects of placebo on symptoms in 100 psychiatric patients, and an investigation of factors predisposing to placebo response.

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THE transformation of an inert substance into a powerful medication, merely because it is administered by a physician and called "medicine" is a well known phenomenon. We have all had the experience of seeing a patient's symptoms melt away before the drug we have given him could possibly have had any physical effect upon him. The problem of differentiating the true physical effect of medication from placebo effect is a particularly difficult one when we are treating symptoms of psychogenic origin. The following study on placebo effects had a threefold purpose:

1. To attempt to measure quantitatively the therapeutic power of an inert substance on a varied group of psychotic and neurotic patients; i.e., to see how much change placebo alone can bring about in emotionally ill patients and their symptoms.

2. To obtain a baseline against which the active tranquilizers could be compared.

3. To obtain a clearer picture of what some of the nonphysical factors are in a patient's response to medication, and to see how these might influence a placebo response.

Method

The data considered in this paper were originally gathered in the course of three studies designed to afford information about placebo as well as to estimate the effectiveness of several ataractic compounds. All were double-blind studies, with neither physician nor patient knowing whether medication or placebo was being administered. More than 200 patients were studied in all.

The present study encompasses an extensive statistical analysis of the data on 100 patients who received a placebo for the first two week period of their treatment. About one-fourth of these were inpatients on the psychiatric wards of the Charity Hospital of New Orleans; the remainder were out-patients, attending the psychiatric clinic of that institution or similar state-supported clinics in smaller cities. Aside from some necessary supportive psychotherapy with a few of the inpatients, none of these patients received any other form of treatment during the two-week period. The diagnostic categories represented are shown in Table 1.

At the beginning of the two-week period, the patients were told that they were receiving a new medication which might help them. They were given tablets which looked and tasted just like the active preparation dispensed later in the study. The physicians (A.S. and C.E.) who did the clinical evaluations took no part in administering the medication, and did not know whether these patients were receiving placebo or actual medication. They evaluated each patient's mental status by means of a psychiatric profile ranking the following signs and symptoms on a four-point scale according to severity: affect disorder, association defect, deper-

* Presented at the Eightieth Annual Meeting of the Louisiana State Medical Society, in Baton Rouge, La., May 3, 1960.

† The authors wish to acknowledge their appreciation to Mr. E. Lee Hoffman of Newcomb College for his statistical evaluation of their data.

TABLE 1
IMPROVEMENT ON PLACEBO BY DIAGNOSIS

Diagnosis	Overall Estimate of Improvement				
	Worse or None	Slight	Moderate	Marked	Recovered
Schizophrenia Chronic					
Simple Type	0	0	0	1	0
Catatonic	0	0	2	0	0
Paranoid	1	6	2	1	1
Undifferentiated	2	12	10	7	3
Schizo-Affective	1	1	0	0	0
Childhood Type	0	0	0	1	0
Residual Type	0	1	2	1	0
Schizophrenia Acute					
Paranoid Type	0	0	1	1	0
Undifferentiated	0	2	0	4	1
Involutional Psychotic Reaction	0	1	1	1	0
Psychotic Depression	0	1	2	1	1
Paranoid Reaction	0	1	0	0	0
Psychoneurotic Disorders					
Anxiety Neurosis	2	3	2	5	0
Anxiety Reaction	2	1	0	1	0
Gross Stress Reaction	0	0	0	0	1
Neurotic Depression	0	1	0	1	0
Conversion Reaction	1	3	0	0	0
Adolescent Behavior Problem	0	0	0	1	0

sonalization, depression, anxiety, delusions or referential ideation, hallucinations, socialization defect, insomnia, anorexia, and resistance to psychotherapy. An evaluation of each patient was made before treatment and was repeated after the two-week period. More frequent evaluations were made of the in-patients. An over-all evaluation of change in condition based on a separate scale was made as follows:

0. No change or worse
1. Slight improvement:
   some beneficial effects, but not enough to warrant further use of the medication
2. Moderate improvement:
   favorable results, but patient seeking further relief
3. Marked improvement:
   symptoms subside, no longer disturb the patient
4. Recovery:
   symptoms subside completely, both subjectively and objectively; patient socially productive

Results

General improvement: Ten per cent of the patients showed a general worsening of their condition during the trial on placebo; 34 per cent showed no change; 20 per cent were slightly improved; 29 per cent showed moderate improvement; and 7 per cent improved markedly. Thus it appears that more than half of the patients showed definite signs of improvement while receiving the placebo, and that more than one-third of the total group showed a most satisfactory response, one which would ordinarily highly favor the continuation of treatment with the same medication. Table 1 shows improvement by diagnosis. No significant differences in response were seen between the psychotic and the neurotic groups, or in the various diagnostic categories.

Symptomatolgoy: Table 2 presents the data on the reduction of severity of individual symptoms. Of 38 patients suffering from hallucinations, 60 per cent showed a reduction in either intensity or frequency, or complete disappearance of hallucinatory experiences. Of the 85 pa-

tients suffering from depression, 45 per cent were less depressed while receiving the placebo.

Similarly, relatively high percentages of improvement were noted among patients with insomnia and with anxiety, while more than 30 per cent of patients suffering from anorexia and from symptoms of depersonalization showed relief of these symptoms, varying in degree from slight relief to complete disappearance of the symptoms.

For the symptoms of delusions, association defect, and inappropriate affect, improvement was demonstrated in about 25 per cent of the patients who initially suffered from these symptoms. Improvement was noted less frequently in the case of flattened affect and social withdrawal. Of 61 patients who demonstrated resistance to psychotherapy—based upon a variety of factors and manifested by difficulty in establishing rapport—16 per cent appeared to become more amenable to psychotherapy after receiving the placebo.

Correlation of Response to Placebo with Patients' Characteristics: Using the Kruskal-Wallis statistical test,[4] the data were analyzed for the existence of any correlations between the tendency to react favorably to the placebo and the following personal and sociological factors: age (ranging from 12 to 73), sex, race, occupational stability and education (from illiteracy to college degree). The only significant correlation found was between tendency to react and race, with Negro patients showing more response to placebo than white patients.

Correlation of Response with Characteristics of Illness: The results were searched for possible correlations with the following factors: whether or not the patient had a previous psychotic episode or severe emotional upset; duration of present illness (ranging from one month to 30 years); response to previous somatic treatment; severity of the precipitating stress for the present illness; and diagnosis. No statistically significant correlations were found between any of these factors and the response to placebo.

Correlation of Response with Frequency of Administration of Medication: The amount of response to placebo did not show any correlation with frequency of administration, whether b.i.d., t.i.d., or q.i.d.

Discussion

This study demonstrates that the tendency to respond to any medication, whether active or not, must be taken into consideration in the evaluation of the efficacy of the various new drugs. In Table 2, the column on the far right gives a statistical projection of the percentage of patients who would have to show improvement, by symptoms, for a drug to be proven significantly more effective than placebo alone, in a study with a patient sample of the same size and with similar characteristics, utilizing similar proce-

TABLE 2
CHANGES IN SYMPTOMS WITH PLACEBO

Symptom	No. Observed with Symptom	Percentage of those Originally Observed with Symptom Showing Change			Upper (95%) Limit of Chance Improvement
		Worse	Unchanged	Better	
Affect-Flattened	73	1.4	84.9	13.7	25
Affect-Inappropriate	30	3.3	70.0	26.7	43
Association Defect	35	11.4	62.9	25.7	41
Depersonalization	76	2.6	65.8	31.6	42
Mood-Depressed	85	5.9	49.4	44.7	55
Anxiety	89	6.7	51.7	41.6	52
Delusions	53	7.5	64.2	28.3	42
Hallucinations	38	7.9	31.6	60.5	72
Sociability-Withdrawn	76	1.3	79.0	19.7	29
Insomnia	75	8.0	48.0	44.0	55
Anorexia	64	1.6	65.6	32.8	45
Resistance to Psychotherapy	61	1.6	82.0	16.4	26

dures. The most striking example is presented in the case of hallucinations, where more than 72 per cent of patients with that symptom would have to show a decreased severity in order to be certain that the improvement was significantly greater than that which might be obtained by administering an inert substance. The fact that hallucinations were more greatly affected by placebo than any other symptom may reflect the relative bizarreness of the symptom; since a patient can more readily recognize it as pathological, he may be more eager and better able to shed it.

The mere listing of symptoms, in making a mental status evaluation, can be a force in directing the patient toward better reality testing. The patient may become more objective about himself simply through listening to himself as he verbalizes his complaints to the investigator, and this can serve as an impetus toward self-correction of symptoms which are out of line with reality. In this case the study itself, rather than the administration of the placebo, would be instrumental in producing a certain amount of improvement.

We can only speculate as to other factors operating to produce the response to placebo. The present study has suggested, through the absence of any positive correlations, that such social factors as education and occupational stability, and such characteristics of the disease process itself as chronicity and severity of precipitating events are not important in determining the response. The only positive correlation found was with race (or more probably with culture), and this may merit further investigation. In the group of patients studied here, the Negro patients seemed generally more anxious to please the doctor, were in greater awe of him, and expected more of him than did the white patients. They also appeared to have greater magical expectations of the efficacy of drugs. If these impressions are valid, it would indicate that the higher percentage of response to placebo in Negro patients is due to differences in transference. This agrees with the finding, well known to all physicians, that medicines appear to work better when the patient's relationship to the doctor is a positive one. Other studies of the placebo phenomena recently reported,[2, 3] reach a similar conclusion: that the effects of placebo are derived primarily from the emotional relationship between the physician and the patient.

Abstract

The effects of placebo on 100 psychotic and neurotic patients were studied: 7% of the patients showed marked improvement, 29% improved moderately, 20% improved slightly, 34% showed no change and 10% became worse. Improvements in individual symptoms are detailed. No positive correlations were found between such social factors as education and occupational stability and the propensity to react to placebo, nor was any correlation found with diagnosis or other characteristics of the disease itself such as chronicity or severity of precipitating stress. The response to placebo was greater among Negro patients than among whites.

It is concluded that an explanation for the effectiveness of placebo may be found in the transference phenomena and in the reality-testing effect resulting from the mere eliciting of symptoms.

References

1. Edisen, C. B. and Samuels, Arthur S.: Thiopropazate Hydrochloride (Dartal) Chemotherapy for Emotional Disorders, A.M.A. Arch. Neurol. and Psychiat., 80:481 (October) 1958.

2. Fischer, H. K .and Olin, B. M.: The Dynamics of Placebo Study: A Clinical Study, The American Journal of the Medical Sciences, 232:504, 1956.

3. Gliedman, L. H., and others: Reduction of Symptoms by Pharmacologically Inert Substances and by Short-term Psychotherapy, A.M.A. Arch. Neurol. and Psychiat., 79:345, 1958.

4. Kruskal, W. H. and Wallis, W. A.: Use of Ranks in One-Criterion Variance Analysis, J. Amer. Statistical Assn., 47:583, 1952.

5. Samuels, Arthur S.: Phenergan in Treatment of Psychiatric Patients, Dis. Nerv. System, Vol. XVIII, No. 5 (May) 1957.

6. Samuels, A. S. and Edisen, C. B.: The Effects of Promazine on Psychiatric Symptoms, J. Louisiana State M. Soc., 110:164 (May) 1958.

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Editorial

Severe Epistaxis

The problems of physicians cannot be assessed mathematically. What appears to be a trivial disorder may develop into grave illness. An adverse progression of events of this sort may occur in epistaxis. Two reviews in this field present clearly the types of problems encountered and the reasons for caution.

In 80 per cent of the patients, if enough time is allowed to elapse, the bleeding will stop spontaneously without treatment. In others, however, dangerous hemorrhage and even death may occur. The physician must need to maintain a watchful attitude in each case and develop an adequate knowledge of the facts in the situation. By such vigilance he is able to separate the trivial from the serious in sufficient time to undertake those progressive steps in therapy which may become necessary.

When bleeding is persistent a serious degree of anemia, and occasionally, death, may occur. Nosebleeds of children and young adults are seldom severe. Serious epistaxis is essentially a geriatric problem, and its incidence in one of the reviews presented increases directly with age. The commonest causes were conditions which became progressively worse as the patients grew older. The cause of bleeding in one fourth of the patients could not be determined. In 44.5 per cent, arteriosclerosis or hypertension, or both, were responsible. Trauma was the cause in about 10 per cent, and familial hemorrhagic telangiectasia in about 5 per cent. Blood dyscrasias accounted for approximately another 5 per cent. Forty per cent of the patients were more than 60 years old, and of those past 60, 65 per cent had hypertension.

The source of the bleeding was variable, and in 106 patients treated between 1945 and 1950, was undetermined in 22.6 per cent. It was from the anterior portion of the septum (Kiesselbach's area) in 27 per cent. It was from the sphenopalatine or nasopalatine artery in 10 per cent; from the naso-nasopharyngeal plexus in 11, and diffuse in 6.6 per cent.

The problems of diagnosis and treatment can well tax the ability of the most

astute and capable physicians. In many instances, he must proceed in a situation in which the patient's preoccupation with bleeding prevents an adequate history, and also, in which the amount of blood being lost calls for aggressive therapy. Close observation of the patient may be necessary to distinguish between shock due to hemorrhage and the shocklike appearance of the patient who is nauseated from swallowing too much blood, and who is panicky enough to produce tachycardia. In the presence of a known hypertensive or arteriosclerotic state, the cause of bleeding may be presumed to be a broken artery or vein. It is, however, unsafe to assume that the bleeding will stop when sufficient blood has been lost to lower the pressure and allow clot formation. The protective and defensive mechanisms of the body will maintain blood pressure at or near its previously habitual level as long as possible. When the pressure begins to fall, the level descends rapidly and the body may become incapable of responding when support is provided from the outside. It has been stated that it is not the presence of blood in the nose, but the lack of blood in the vascular system that causes death. When there is any uncertainty as to the satisfactory stability of the patient's condition, transfusion of blood should be employed.

"Each physician has his own favorite method of controlling nasal hemorrhage. The principal object is, however, to stop the flow of blood as soon as possible." Patients with serious hemorrhage require a quick acting opiate or hypnotic. Anterior or posterior packs are employed according to the probable source of bleeding. The specialist in rhinology also has available to him the use of electrocoagulation, chemical cautery, and submucous resection. When bleeding continues in spite of these aggressive measures, ligation of the external carotid artery, with the possible addition of the anterior ethmoidal artery, are to be considered. Much of the bleeding in the nose is controlled by ligation of the external carotid. This will not correct bleeding from the anterior ethmoidal artery, which takes its origin from the ophthalmic artery of the internal carotid artery. It has been stated that collateral circulation is established within five days after ligation of the external carotid artery.

Routine diagnostic procedures are a necessary supplement to local treatment. They may reveal causes of bleeding and become an accurate guide in determining what supportive measures are necessary. Among the general causes of epistaxis which may be revealed in a diagnostic study are hypertension, arteriosclerosis, high venous tension, acute blood infections, blood dyscrasias, and cardiac diseases.

Arterial and venous degenerative changes are known to produce hemorrhage in the lungs, the esophagus and stomach, the colon and rectum, occasionally the urinary tract, and among those of advanced years, the arms and legs. These hemorrhages assume an importance in proportion to their accessibility. When nasal hemorrhages are treated with due regard to their potential dangers, the physician has resources which can be progressively employed to control most of them. Among the most serious and intractable types of epistaxis will be those that result from trauma which produces fractures of bones and lacerations of associated arteries. The arteries most affected are the internal carotid and the anterior ethmoidal. This may be followed by intermittent but also massive bleeding. Spontaneous aneurisms may do the same. In such situations, the depletion of the patient and the magnitude of the arterial damage may defy surgical control.

Physicians and specialists in rhinology find that 20 per cent of the patients with epistaxis present a challenge in diagnosis and therapeutic handling.

Hallberg, Olav E.: Severe Nosebleed and its Treatment, JAMA 148:355 (February 2) 1952.

Quinn, Francis Berchmans, Jr.: Fatal Epistaxis, California Med. 94:88 (February) 1961.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

A LOOK AHEAD FOR HEALTH INSURANCE

A need for action "not dreamed of ten years ago" was stressed in the following excerpts from a keynote address entitled "A Look Ahead," given by the President of the Health Insurance Association of America, Millard Bartels, before the HIAA Individual Insurance Forum, Chicago, October 24, 1960. Mr. Bartels is Chairman, Insurance Executive Committee, The Travelers Insurance Companies.

"Our business as a way of distributing the cost of health care finds itself in an unusual position in the world today. It is unique in its size, its phenomenal growth and its relation to government. In a relatively short time some 130 million Americans—73% of the civilian population have some kind of medical expense insurance. During 1959 a grand total of $5,175,000,000 in health insurance benefits was distributed— up 10.9% over 1958.

"Fifty-nine nations, some of them holding the same devotion to political freedom of the individual which we have in this country, have medical care programs federally operated on a compulsory monopolistic basis. But our companies are still in a position to reduce further the need for this kind of governmental action in the United States.

"So far, so good. But what should we do now?

"The results of your underwriting skill have, to me, been amazing. The development of major medical, the forward steps in continuation of coverage and the adoption of a variety of competitive marketing practices and procedures have transformed the business from a small money-making operation to a large public service.

"But even as our business expands under the shadow of government monopoly our Association must increase its interest in new areas. The health insurance business needs to be identical with an interest in the health and medical care of our people as distinguished from a dedication to spreading cost at a profit. Too often, I fear, we are looked upon as mere entrepreneurs who take in money and pay out money without showing a real interest in the risk assumed, namely, the health of the American people. We should manifest by what we do and what we say a genuine regard for the good health of our citizens.

"In Dallas this was put well by Bruce Black, Chairman of the Board of the Liberty Mutual Insurance Company. He said, "But real protection is much more than reimbursement for losses: it means protection from losses, it means prevention of fires, it means prevention of accidents that cause losses, it means minimizing the disabilities resulting from injuries through medical care and rehabilitation, it means concern with the total cost of protection both for losses and for expenses."

"One way to do this is to promote the development of needed health and medical care facilities. That these are lacking in certain localities is well-known. They would include hospitals, skilled nursing homes, home care programs, nurses, homemakers, chronic illness facilities, geriatric facilities, diagnostic and rehabilitation opportunities, mental illness facilities, clinics and other possible categories.

"At our May meeting, Doctor Blasingame of the American Medical Association told us that better nursing home facilities for long-term care of the aged, especially those over the age of 75, constitute the most urgent health care need before the nation today. This should be of deep concern to the health insurance business. Of the 14,000 nursing homes in the country fewer than 40% are members of professional nursing home associations. Most are privately owned and 50% of the patients are being paid for with public funds. The average skilled nursing home has 25 beds and the cost per patient is about $6 to $8 per day. The average age of people in nursing homes is 80, and 90% are over age 65. The relationship of this facility for care to the problems of older people is readily discernible.

"Here is an area where doctors, hospitals and health insurers should work together with the proper kind of representation of the nursing home business. It is necessary to develop standards for qualification, operation and use. The determination of need by location must be made. Under some conditions we could be helpful in providing nursing home care in conjunction with a hospital, possibly with the help of federal funds.

"In other areas it might be wise to participate in financing expansion of this service in coordination with the provisions of the small business loan program. A co-operative study of this sort should provide a way of controlling overuse. Certainly this kind of co-operative effort to preserve not only the principle of private care but also the private handling of the cost of

care has advantages and should be worthy of our attention.

"Much can be done to encourage provision for rehabilitation facilities. Mr. Black told us in Dallas what his company has done to restore disabled human beings to a satisfactory and useful life. Other insurance companies have also taken constructive action of this sort. There is a crying need for more of this.

"Accident prevention also ties in with the reduction of losses under health insurance policies. Casualty insurers which underwrite liability for injuries under workmen's compensation laws and the common law spend considerable sums of money in studying and advancing safety. My own Company paid in 1959 $7,900,000 in the field of accident prevention, which brought the total amount paid since organization to $127 million. The health insurance business might well identify itself with these efforts which have impressed government and citizens alike.

"A look ahead for a business which has matured as fast as the health insurance business brings into focus needs for intelligent action of a kind not dreamed of ten years ago. The image of health insurers to be held by the American people will become increasingly important. Business growth is necessary, but growth alone is not enough. Our companies must be regarded not only as mechanisms to spread the cost of medical care but also as motivators of improvement in health. Our business must wear a mantle of humanity. This is the kind of business which the American people will not want to extinguish in favor of government monopoly."

A NEED FOR MUTUAL UNDERSTANDING

To develop and maintain . . . a program of voluntary health insurance, it is absolutely essential that the insurance industry achieve an atmosphere of understanding and cooperation with the providers of medical care—the cost of whose services we undertake to finance. In the absence of mutual understanding, it would be presumptuous for one group to assume such a relationship toward another.

The insurance industry cannot be insensitive to the problems of the physicians and hospitals for theirs obviously is the leading role. Much less can we be insensitive to the problems of our policyholders who ultimately become the patients of the physicians and hospitals.

The development of principles of medical care must be the role of the medical profession. It is for the insurance industry to develop health insurance coverages which are compatible with these principals of medical care in whatever manner they may evolve.

This atmosphere of understanding and cooperation can be brought about only through repeated contacts — face to face discussion — amongst the people concerned. Misunderstandings through lack of information could grow and become a major irritant, but through personal discussion can be readily eliminated.

An understanding of health insurance principles enables hospital representatives and physicians to offer real assistance to their patients. Similarly, an understanding of the problems of hospitals and physicians enables the insurance industry to devise coverages and, of no little importance, administrative procedures which best fit the practices and meet the convenience of the providers of medical service.

Fundamental to achieving such an atmosphere must be a demonstrated willingness by all parties to make changes when improvement can be perceived.

We are fortunate in having the support of the Insurance Industry to help us fight against the socialization of the medical profession by the liberals and the so-called "Well-Doers" in Washington. We want the insurance groups to know that we appreciate their efforts and cooperation.

IMPORTANT NOTICE

We would like to call the attention of our members to Public Affairs Research Council pamphlet No. 92 of January 1961, dealing with the Louisiana Inheritance and Estate Taxes. This brochure contains important information and can be obtained from the Public Affairs Research Council of Louisiana, Inc., P. O. Box 2748, Baton Rouge.

LOUISIANA SUPREME COURT RULES AGAINST CHIROPRACTORS

The Louisiana Supreme Court refused to hear an appeal by 122 chiropractors seeking to have the state's Medical Practices Act declared unconstitutional. Earlier in the month, the First Circuit Court of Appeal in Baton Rouge denied a rehearing in the same case. Originally, the chiropractors brought suit in Federal court but the case was remanded to the state courts. As a result of these decisions, the Louisiana State Board of Medical Examiners will be able to more effectively file charges against chiropractors for violating the Medical Practices Act since it has been freed of all injunctions.

A.M.A. RURAL HEALTH REPORT

The Third National Rural Health Conference was held on February 3rd and 4th 1961, at the Palmer House in Chicago, Ill. The theme of the conference was "Information vs Misinformation." Dr. Norman H. Gardner presided over the morning session and Mrs. Haven Smith acted as General Discussion Leader.

The session was opened by an invocation by Rev. E. W. Mueller.

President-elect of the A.M.A. was represented

by Dr. George Fister to greet the guests and visitors. He gave a brief history of the organization which began in 1945. His address was followed by a Panel on "Today's Health Dollar".

The first speaker on the panel was L. W. Martin, Ph.D., who showed the comparative small portion of the medical care dollar that went to the doctor and how his portion has dropped while the hospital portion has risen.

Louis M. Orr, M. D., showed the comparative cost of medical care vs other commodities and also compared the money spent on quacks and mail order door to door peddlers and T.V. and radio advertised drugs and cures. Dr. Orr explained the seemingly high cost of drugs in the U. S. as compared to other countries, but when compared to cost by work hours, the American public is getting by easier.

The second speaker on the panel, Austin Smith, M. D., explained the drug industry and its aims; not just the control of infections and extending life expectancy but to make the aged useful throughout life. He explained the seemingly high cost of certain drugs versus the short duration of illnesses and life expectancy which today is from 65 to 70 years.

Next speaker on the panel was Mr. George Bugbee who explained the high cost of hospitalization being from two principal causes: High cost of operation of the hospitals, of which 65% is in salaries and over use of hospitals.

A question and answer period followed.

In the afternoon session R. B. Robins, M. D. acted as Moderator in "The Changing Patterns of Medical Care". He gave a talk which brought out the over specialization of the profession but produced a higher quality of medical care in local communities.

Dr. Robins went into the modern trend of the politicians taking over and the growth and advancement of social obligations being turned over to the government in social security etc. that the public are too prone to let the government do it.

Heinz Lord, M. D. next spoke on "As Seen by World Medical Association" where he showed there is some form of Government Health Plan in all governments throughout Europe and that we are about ready to get in the same category.

John B. Reckless, M.B., Ch.B. a native of England spoke of National Health Service in England. He said all better doctors are leaving England in order to practice medicine as a free enterprise. He told us the doctors over there have very little time to practice medicine the way it should be and that right now there are 481,000 people waiting for elective surgery and some of them will have to wait as long as three years before being scheduled for operation.

A discussion period followed the above talks and was summarized by Dr. Robins.

A panel on Extension Education in the Field of Health with a report of a national survey followed with Mrs. Haven Smith acting as Moderator.

Mr. Marvin A. Anderson was the first member of the panel to speak. His talk was on: help people to help themselves, especially in health problems. He discussed health problems in facilities, immunization and sanitation. He also showed how to organize State Health Committees and county subcommittees.

This was followed by a paper read by Miss Gertrude Humphreys, State Leader of Agricultural Extension Service of University of West Virginia who spoke of Agricultural Extension services working with the medical profession to plan health programs, locate problems and give counsel and guidance. She suggested holding meetings between rural health representatives of State Medical Societies and program planning groups.

Another paper by Miss Edith Bangham, District Leader of Agricultural Extension Service of University of Wisconsin, discussed promoting health services through extension services and training leaders to assist farm and non-farm people through local Health Departments.

A discussion followed.

At seven that evening a banquet was held and Mr. Chester Lauck spoke on "Socialized Medicine and How to Get It". His talk, although humorous, was very instructive and enlightening.

Dr. Samuel P. Leinbach presided on Saturday morning. The first speaker was Frederick Stare, M. D. His talk was on Nutrition Facts and Fallacies. He explained what is nutrition, what makes up a balanced diet, discussed fad of dieting, people wanting to lose weight and others wanting to gain weight. He discussed constituents of food, proteins, fats, carbohydrates, minerals such as copper, zinc, fluorine, calcium etc., water and vitamins. He discussed Food Quackery and the millions of dollars spent yearly by the American public.

Mr. Aubrey Gates was next called on to act as panelist on "Medical School Looks at Rural Medical Care". W. Clarke Wescoe, M. D. was the first speaker and he explained how the medical schools in Kansas play the leading role in rural medical care and how the preceptorship program is enforced in the fourth year of medicine. Each student must spend five and a half weeks in private practice in communities of under 2,500. He stated that postgraduate seminars were held in local areas and also in the universities for the physicians of Kansas, that the schools helped in the distribution of doctors in rural areas and surveys were held as to the ability of the community to support a doctor, the facilities, office, hospitals, schools,

churches, service clubs, banks, stores, shopping areas and social and cultural life.

Edmond K. Yantes, M. D. was next on the panel and he praised highly the work in Kansas and criticized other states for not following their example. His talk was followed by that of the wife of an Intern, Mrs. Virginia Muenzler, who spoke on the trials and tribulations of the wife of a medical student and how she worked to help her husband through school. They have a five year old child.

Next a medical student, Edward G. Lufkin, also with a five year old child and junior in medicine spoke of the handicaps of working his way through school with the help of his wife, scholarship etc.

This was a very interesting meeting and all sessions were very well attended. I was the only member of the Louisiana Rural Health Committee attending, although Dr. C. G. Cole attended most of the sessions.

Guy R. Jones, M. D., Chairman,
Committee on Rural and Urban Health
Louisiana State Medical Society

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

TRACHOMA COMMON EYE INFECTION AMONG SOUTHWEST INDIANS

Trachoma, a virus-caused infection, "is still a common affliction of Indians in the southwestern United States," according to a report in the February 4 Journal of the American Medical Association.

The disease once was the most common cause of blindness but sulfonamide and antibiotics now can control its spread.

The Journal report by Drs. John C. Cobb, Albuquerque, N.M., and Chandler R. Dawson, San Francisco, U.S. Public Health Service, was based on surveys among four Pueblo tribes and Navaho school children in New Mexico and Arizona.

In each village almost all children of school age were examined, they said, but the adults who presented themselves at clinics represented a distinct minority of the adult population.

"About 15 per cent of 2,522 Pueblo Indians seen and 23 per cent of 1,126 Navaho school children had the disease," the authors said.

"Almost 18 per cent of the adolescent Navaho children examined had active trachoma, an indication that this tribe is heavily infected.

"Spread of the disease in homes and schools is probably enhanced by overcrowding and inadequate water supplies.

"There is little doubt that trachoma can be passed from child to child in crowded schools where sanitation is poor."

At one boarding school on the Navaho Reservation, nine cases were found among the 134 pupils and two weeks later, 22 new cases were uncovered.

"When the hygienic standards of the school were checked, it was found that the water supply was inadequate and that the children were using common wash water," the authors pointed out.

Among the Navahos, who live in crowded quarters with little water and are exposed to a windy, dusty environment, trachoma is still a constant threat to eyesight, they said.

The Division of Indian Health of the U.S.

Public Health Service is engaged in a control program of health education, early diagnosis, and treatment of active cases, they added.

TWO GROUPS BACK A.M.A. STUDY ON MEDICAL CARE COST

Two prominent organizations in the health field have pledged their support and assistance to the studies being conducted by the American Medical Association's Commission on the Cost of Medical Care.

George Bugbee, president of the Health Information Foundation, and Ned F. Parish, assistant executive vice president of the National Association of Blue Shield Plans, offered their cooperation in determining the causative factors in health care costs at a recent meeting of the commission in Chicago.

The commission, established by the A.M.A. last June, is making a three-year study to gather and evaluate accurate statistics and authoritative information on health care costs. Its findings are expected to clarify the manner in which the public spends its medical care dollar for such items as physician services, hospitalization, drugs, dental care, and health insurance programs.

Bugbee volunteered to share with the commission studies made by the Health Information Foundation, including those on utilization of hospital facilities, trends in medical care expenditures, and health care of the aged.

Representing the National Association of Blue Shield Plans, Parish reported that his organization would provide information on the evolution and growth of surgical care prepayment plans as well as on the extent and scope of present coverage.

The commission is composed of 15 physicians, headed by Chairman Louis M. Orr, Orlando, Fla., and Vice Chairman David B. Allman, Atlantic City, N.J., both past presidents of the A.M.A.

Dr. Orr stressed the need for an objective study of medical care costs. He said:

"Too many of the economic surveys and studies on medical care costs begin with a preconceived notion of what the situation is. The data gathered is then fitted to support this prejudice. We will be as objective and honest as possible in our study so that our findings will not be open to question or criticism."

The commission accepted a grant of $10,000 from the Charitable, Educational and Scientific Foundation of the Wisconsin State Medical Society. The funds will be used to conduct a field study within the state on medical care costs.

In addition to its physician members, the commission will be served by numerous experts from allied fields, industry, education, labor, and government. These consultants will advise the three committees of the commission investigating the areas of the economics of medical care, financing mechanisms, and the impact of the developments in diagnosis, therapy, and clinical management of disease on the cost of medical care.

A.M.A. AND CHEST PHYSICIANS PLAN JOINT SESSION IN N.Y.

A full day scientific meeting, sponsored jointly by the American Medical Association and the American College of Chest Physicians, will be one of the outstanding features at the 110th annual A.M.A. convention in New York City, June 25-30.

Dr. Coleman B. Rabin, New York, secretary of the A.M.A. Section on Diseases of the Chest, planned the program for this joint meeting, which will be held on Monday, June 26. Chairman of the morning session will be Dr. Herman J. Moersch, Chicago, chairman of the A.M.A. Section on Diseases of the Chest. Chairman of the Monday afternoon session will be Dr. Hollis E. Johnson, Nashville, Tenn., president-elect of the American College of Chest Physicians.

The joint program, which was arranged so as to be of interest to specialists and general practitioners alike, will follow the scientific assembly of the American College of Chest Physicians which is holding its 27th annual meeting in New York, June 22-26, just prior to the A.M.A. session.

The program, first ever sponsored jointly by the two medical organizations, will consist of symposiums, panel discussions, the reading of scientific papers, roundtable luncheon meetings, and fireside conferences.

Subjects to be covered will include new approaches in the treatment of various forms of heart disease; tuberculosis in general hospitals; steroid treatment in lung diseases; modern diagnostic measures in heart disease; pulmonary disease and the best forms of treatment; asthma; chronic bronchitis and emphysema; heart catherization; recent advances in the treatment of cardio-pulmonary diseases; modern treatment of angina due to stress or effort, and x-ray findings in heart and chest diseases.

Moderators of the symposiums and panels will be Drs. Arthur M. Master, New York; Sol Katz, Washington, D.C., and George C. Griffith, Los Angeles.

Other physicians who will appear on the joint program are:

Felix Wroblewski, Henry Williams, Jr., Alvan L. Barach, Daniel Lukas, and Isadore Rosenfeld, all of New York; William Hollander, Boston; Eliot Corday, Beverly Hills; Howard Burchell and Norman Hepper, Rochester, Minn.; Irving J. Selikoff, Paterson, N.J.; Clarence S. Thomas, Nashville; W. Proctor Harvey, Washington, D.C., and George E. Burch, New Orleans.

One of the scientific papers will deal with the results of operative and high voltage radiation in the treatment of 628 cases of cancer of the lung. It will be read by Dr. David B. Boyd of Boston.

Other scientific papers will be delivered by Drs. Richard Overholt, Boston; John F. Briggs, St. Paul; George L. Waldbott, Detroit; Gustav J. Beck and Hylan A. Bickerman of New York, and Krishna Nanda, New Delhi.

Fireside conferences, where physicians discuss medical problems of the chest informally, will be held on Monday, June 26, as part of the joint session. These fireside conferences, always a popular feature at the annual meetings of the American College of Chest Physicians, will be built around 36 roundtables where attending physicians, along with prominent scientists, will discuss recent advances in diagnosis and treatment in all phases of heart-lung diseases.

In addition to the formal scientific session, the College will sponsor a new exhibit, entitled "Physiologic and Clinical Testing of Cardiac Function." This outstanding scientific exhibit, approved by the A.M.A. Council on Scientific Assembly, will be shown at New York's Coliseum begonning on Sunday afternoon, June 25.

REPORT NEW CAPSTONE TO PUZZLING BABY DISEASE

Physicians reported progress recently in tracking down a comparatively new and puzzling baby disease, which carries the jawbreaker name, infantile cortical hyperostosis.

When it was first reported in 1945, there was a feeling in pediatric medicine that only a few babies suffered from it. Until 1952, only 100 case reports were in the literature.

The February 11 Journal of the American Medical Association reports, however, that the disease is so common in pediatric practice now that "only cases of unusual interest are being published."

Four Burlington, Vt., physicians reported the unusual and first experience of having observed 11 cases in one family over a 14-year period.

This, the doctors said, strongly indicates that the disease may be hereditary and that many cases exist which are being overlooked.

The four doctors are John P. Tampas, Frederick W. Van Buskirk, Oscar S. Peterson, Jr., and A. Bradley Soule, all connected with the Department of Radiology, University of Vermont College of Medicine.

They explained that clinically, the disease, which strikes infants up to nine weeks old, is characterized by soft tissue swelling over affected bones, fever, and irritability. Sometimes there is pleurisy, pseudo-paralysis, and pallor. The disease seldom follows a classic or characteristic pattern.

"Laboratory data are inconstant," the doctors said. X-ray studies show that as the disease regresses, affected leg bones have a tendency to bow, but later the bowing corrects itself. The puzzling nature of the disease, from which nearly all the young patients eventually recover completely, accounts for the Journal's reference to it as an "interesting enigma."

Among the 11 cases observed in a single family, the doctors said, one patient was a 25-year-old father of four children. The father suffered swollen painful extremities and bowing deformities in childhood, and the deformities persisted into adult life. All four of his children had the disease in infancy.

The Burlington physicians urged the medical profession, especially radiologists, to be on the lookout for symptoms, especially with respect to hereditary factors.

"It is suggested," they said, "that family histories of all known patients with this illness be carefully evaluated and x-rays be obtained on all parents and their children as well as other relatives with an even mildly suspicious history."

If more is learned about the disease, the doctors said, it is possible that orthopedic management could prevent skeletal abnormalities from being carried over into adult life.

SYMPOSIUM ON INFECTIOUS DISEASES IN CHILDREN

Beta Hemolytic Streptococcal Infections in Children
Burtis B. Breese, M. D.,
Clinical Professor of Pediatrics,
University of Rochester, N. Y.

Treatment of Staphylococcal Infections in Children
Heinz F. Eichenwald, M. D.,
Associate Professor of Pediatrics,
Cornell University Medical College

Infections in the Newborn
Chien Liu, M. D.,
Associate Professor of Pediatrics,
University of Kansas Medical Center

Considerations of Respiratory Viral Infections
Robert H. Parrott, M. D.,
Director of Research Foundation,
Children's Hospital of the District of Columbia

Infections of the Central Nervous System in Early Childhood
Douglas N. Buchanan, M. D.,
Professor of Neurology,
University of Chicago School of Medicine

Studies of Immunological Procedures in Infancy & Childhood
Randolph Batson,
Associate Professor of Pediatrics,
Vanderbilt University Medical School

Moderators:
Blair Batson, M. D.,
Professor of Pediatrics,
University of Mississippi Medical College
Clarence E. Webb, M. D.,
Chairman, District VII,
American Academy of Pediatrics

Date:
April 14th

Place:
Edgewater Gulf Hotel,
Edgewater Beach, Mississippi

Sponsors:
Louisiana, Alabama and Mississippi Chapters of the American Academy of Pediatrics.

The meeting is open to all interested physicians. A program is planned for wives and promises to be interesting. Both doctors and wives will attend a luncheon at which Mr. Earl Tucker, newspaper editor, will be speaker. There will be no registration fees. This program is made possible through the financial assistance of the Lederle Division, American Cyanamid Corporation.

1960 BOOKLET OF REVIEWS NOW AVAILABLE

The latest edition of the annual publication "Reviews of Medical Motion Pictures" is now available upon request. It contains all of the reviews published in The Journal A.M.A. from January 1 through December 31, 1960. The purpose of these reviews is to provide a brief description and an evaluation of motion pictures which are available to the medical profession. Each film is reviewed by competent authorities and every effort has been made to publish frank, unbiased comments. This booklet is prepared and distributed by the American Medical Association, Communications Division, Department of Medical Motion Pictures and Television, 535 North Dearborn Street, Chicago 10, Illinois.

TULANE CREATES EDGAR BURNS VISITING PROFESSORSHIP IN UROLOGY

Tulane School of Medicine has created the Edgar Burns Visiting Professorship in Urology in honor of the urologist who served for 12 years as head of the division of urology at Tulane. The first incumbent of the professorship is Dr. Hartwell Harrison, professor of Genitourinary Surgery at Harvard Medical School. He will be at Tulane March 26 to April 1, 1961, lecturing, and conducting ward rounds and demonstrations in the division of urology. The division has been headed by Dr. Jorgen U. Schlegel since September of 1960, when Dr. Burns reached retirement age. Dr. Burns continues as Professor of Urology on the Tulane faculty.

FIND CAUSE OF CALIFORNIA'S '59 VIRUS OUTBREAK

Clinical evaluation of a strange and unusual illness, which affected children between 1 and 10 in many California areas between mid-June and early October, 1959, is described in the February 11 Journal of the American Medical Association.

The study was made by three Berkeley physicians, Drs. Robert L. Magoffin, Edwin W. Jackson, and Edwin H. Lenette of the California State Department of Public Health.

The disease, which in some areas reached epidemic proportions, was characterized by fever, and ulcerative sores in the mouth and on the hands and feet. In most cases the disease was minor, consisting of a few scattered mouth sores with mild irritation. The illness subsided within 7 to 10 days.

The doctors said as a result of their study they were able to pinpoint the trouble as due to Coxsackie virus, named after the upper New York State town in which it was discovered in 1948 by Dr. Gilbert Dalldorf, then of the New York State Department of Health. The California physicians were able to identify this specific virus in 11 of 15 cases.

The Coxsackie virus has been known to be responsible for several ailments, such as nonbacterial meningitis, which can be mistaken for nonparalytic polio, inflammation of the throat, and a children's disease affecting the heart and brain. But the California outbreak, the doctors said, was believed to be the first of its kind in the United States. They said it closely paralleled a similar outbreak in Toronto during June and July, 1957.

The only difference was that the Toronto outbreak was confined to a single housing estate while in California the disease was known to have occurred in 14 different counties in all major geographic areas of the state.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next scheduled examinations (Part II), oral and clinical for all candidates will be conducted at the Edgewater Beach Hotel, Chicago, Illinois, by the entire Board April 8 through 15, 1961. Formal notice of the exact time of each candidate's examination will be sent him in advance of the examination dates.

Candidates who participated in the Part I Examinations will be notified of their eligibility for the Part II Examinations as soon as possible.

The deadline date for the receipt of new and reopened applications for the 1962 examinations is August the first, 1961. Candidates are urged to submit their applications as soon as possible before that time to Robert L. Faulkner, M. D., 2105 Adelbert Road, Cleveland 6, Ohio.

Clinical Management of Behavior Disorders in Children; by Harry Bakwin, M. D., Ruth Morris Bakwin, M. D., W. B. Saunders Co., 1960, 2nd Ed., pp. 597, price $11.00.

This book, by two competent and experienced pediatricians, must be described as disappointing and unsatisfactory. It is large (560 pages) but this is mostly due to the inclusion of a great deal of subject matter which has nothing to do with the title of the book. This includes such items as the chemistry of cow's milk, "Criteria for differentiation of Zygosity" (in twins), psychological testing techniques, and the "Responsiveness of the Fetus."

The authors tend to define things by references to some other item which in itself is indefinite, e.g. (p. 15) "He hears of the death of a playmate without more emotion than he would experience on learning that the playmate had moved away." Without more—or without less? Then, somewhat callously, "An early acquaintance with the death of animals is an invaluable aid in teaching a *reasonable* attitude towards death." (my italics).

But perhaps the most staggering statement in the book (p. 499) "Growdon concludes that only rarely do children who commit homicide show a tendency to manifest anti-social and non-cooperative attitudes or a tendency to continue acts of violence. On the whole, they are as good a social risk as those who commit any other form of serious delinquency." Or as bad a risk?

The authors rightfully point out the disadvantages of childbirth in a hospital setting; their views on the question of mothers visiting or staying with their children in hospitals on the lines emphasized by Spence and Bowlby and his co-workers are in accordance with sound modern practice.

Some items are ridiculously over-simplified, (p. 44) "It is not until about 3 years that children begin to sleep through the entire night without wetting or having to be picked up. Disturbing dreams may wake up a four year old. By five years sleep is generally quiet,"—or dogmatic (p. 49) "Middle-aged parents who have waited many years before having a child are likely to be over-affectionate, over-anxious and over-protecting,"—or naive (p. 69-70) re fears of using toilet seat, "If these maneuvers are unsuccessful all attempts at training should be discontinued for a few weeks, during which time the disagreeable incident will usually be forgot ten." Supposing it isn't?

Only two or three times during the book is the suggestion made that a psychiatrist should be consulted and this is usually when the authors are quoting some published work where such a recommendation is made. The authors discuss "A true mother's attitude toward adoption" but do not mention depression occurring in the true mother; when discussing twins "no special psychological problems are observed in twins" (!). This surely cannot be in accordance with the author's clinical experience, but in any case they seem unfamiliar with Dorothy Burlingham's monograph on twins, some of which is published in various volumes of The Psychoanalytical Study of the Child. Among other omissions, no mention is made of the serious import and prognosis of school phobia; the authors are unaware of the depression and suicidal impulses which may occur in small children. They also assert that anxiety attacks are rare before the eighth year, which is not in accordance with our experience, and that phobias are rare before adolescence, which again is contrary to the experience of most practicing child psychiatrists. "Anorexia Nervosa" (p. 439) is another clinical disorder in which the serious prognosis is not mentioned and the same comment applies to "Pathological Lying" (p. 493).

The authors rarely give us the benefit of their own experience. Most opinions quoted tend to be impersonal e.g. "there is conflicting opinion as to the value or harm", etc.

I must conclude with another remarkable omission. In a fairly large section on suicide there is no mention whatever of depression.

(Dr.) Cyril Phillips, D.P.M. (Lond.)

The Cigarette Habit; by Arthur King, Doubleday & Company, Garden City, N. Y. 1959, pp. 96, price $2.00.

The main theme of this book dwells on a scientific cure for the cigarette habit. It is divided into four chapters titled: (1) Are you a cigarette addict?; (2) Categories of smokers; (3) The System: How to stop smoking and (4) Cigarettes, cancer, and statistical concepts.

In Chapter One the author classifies the degrees of addiction to the cigarette habit. Although his primary field of research was in that of alcoholism, he had shown a tremendous interest in the public health problem of smoking for the past twenty years. After considerable research he decided that in many respects the recovery period that alcoholics experienced was similar to that of the smoker. The basic interest developed, was to invent some sort of system that would enable all those who smoke to quit cigarettes. His personal experience at attempting to stop smoking are related. After serious thought he decided to set a target date, May 30, 1954, which was approximately one month away. He patterned his attempts at stopping cigarette smoking after that of the alcoholic which took approximately 21 days to effect a so-called cure, but in order to arrive at a similar plan for cessation of the cigarette habit he felt that the type of cigarette smoker must be adequately classified before such an attempt be made.

The second chapter deals mainly with the classification of the smoker into four groups. (1) Light smoker; (2) Medium smoker; (3) Heavy smoker and (4) The cigarette addict. These four categories are described in detail. In order to determine which category one might fit into, the author developed a check list which, when answered in the affirmative in the majority of instances, would definitely classify the individual.

Chapter three deals with the system on how to stop smoking. He has worked out a system for cigarette withdrawal and a 21-day trial period of preparation for the actual day beginning a figurative withdrawal both for categories of heavy and addicted smokers. One of the primary principles in the management is that the instructions must be followed to the letter. The system is divided into numerous categories and the primary thing is to choose a time for Q-day as he quotes it. If at all possible he advises to choose a period in which you can spend most of the time by yourself, stating that this lessens the danger of other persons irritating you unduly, particularly if they are in sympathy with your efforts. The first step after choosing your approximate time is to change your brand of cigarettes twenty-one days before Q-Day. He then goes on to various detailed steps that are carried out during this 21-day period prior to cessation of smoking. He further lists the benefits that one may derive from quitting smoking which number approximately twenty-five. He categorically states that many of the successful stop and make it a point to list a number of the encouraging thoughts on their list of reasons for quick referral during the early days of their program. He also categorically states that only the first three days are in anywise seriously threatening. This chapter concerns the detail of arranging the cure for smoking.

The fourth chapter concerns itself with statistics on the amount of difficulty that one can get into as a result of the cigarette habit. These are mainly figures released by the American Cancer Society and he also mentions the counterclaims of the tobacco industry research committee. He makes the statement that both sides are unwittingly pursuing false scientific targets, and goes into an explanation as to why he thinks so, and he feels "that once you think in other categories" the important variable is the excessive smoker of cigarettes himself. He feels that some smokers of cigarettes differ positively from other smokers in that they exhibit addictive behavior in reference to smoking, and that addicted smokers, if such exist, are probably more susceptible to lung cancer, coronary heart disease and other diseases than are non-addicted smokers. He states that these are hypotheses and not statements of fact.

The book is very well written and is replete with humorous notes throughout. Obviously the author demonstrates to his own satisfaction that one can quit the cigarette habit without too much difficulty.

LAWRENCE H. STRUG, M. D.

The Acute Medical Syndromes and Emergencies; by Albert Salisbury Hyman et al, New York: Landsberger Medical Books, Inc., 1959, pp. 442, price $8.75.

This volume presents in compact and well-organized form current concepts of the management of medical emergencies. It is quite comprehensive in its coverage and practical in its approach. Its three major divisions are devoted to emergencies involving the cardiovascular, gastrointestinal and pulmonary systems. The remaining portion of the book covers diabetic emergencies, renal crises, and barbiturate intoxication.

The practicing physician should find this little book helpful, since it outlines with clarity the plan of management for each entity considered. This is what the authors set out to do, and they have succeeded in their effort.

THEODORE F. TREUTING, M. D.

Gouty Arthritis and Gout; by Thomas E. Weiss and Albert Segaloff, M. D. Springfield, Illinois, Charles C Thomas, 1959, pp. 221, price $7.50.

The authors call attention to an often overlooked condition, in a concise monograph covering their experiences with over 250 patients. Gout is not a vanishing Indian although practitioners of old recognized it more often than present day clinicians.

Frequently discussed with half a smile, gout is no joke to the patient. The section on pathology is especially outstanding with superb photomicrographs. The section on treatment is equally salient.

The authors have fulfilled their purpose in this excellent treatise and it is recommended for the medical internist, the orthopedic surgeon and all physicians.

LYON K. LOOMIS, M. D.

PUBLICATIONS RECEIVED

Doubleday & Company, Inc., Garden City, N. Y.: Stroke; A Study of Recovery, by Douglas Ritchie.

W. B. Saunders Co., Phila.: The Hand; A Manual and Atlas for the General Surgeon, by Henry C. Marble, M. D.; Pharmacology; The Nature, Action and Use of Drugs, by Harry Beckman, M. D. (2nd Edit.).

Charles C Thomas, Publisher, Springfield, Ill.: Henry Stanley Plummer, A Diversified Genius, by Frederick A. Willius, M. D.

Vantage Press, Inc., N. Y.: Beloved Professor; The Life and Times of William Dodge Frost, by Russell E. Frost.



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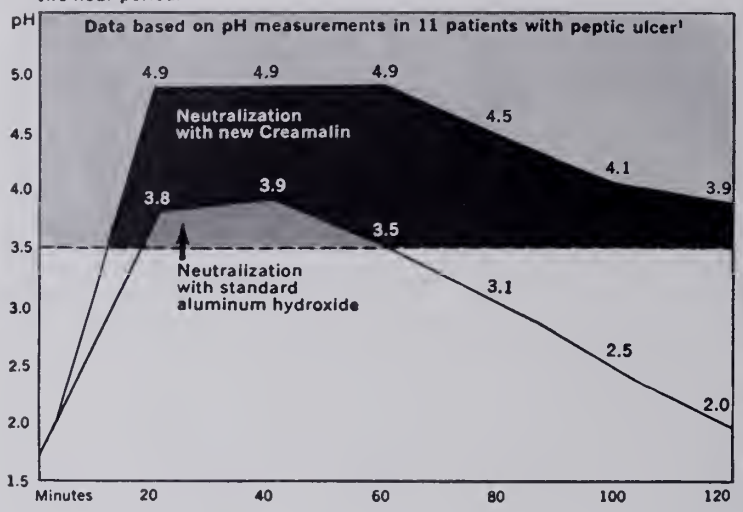
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Dosage: Gastric hyperacidity — from 2 to 4 tablets as necessary. Peptic ulcer or gastritis — from 2 to 4 tablets every two to four hours. Tablets may be chewed, swallowed whole with water or milk, or allowed to dissolve in the mouth. **How supplied:** Bottles of 50, 100, 200 and 1000.

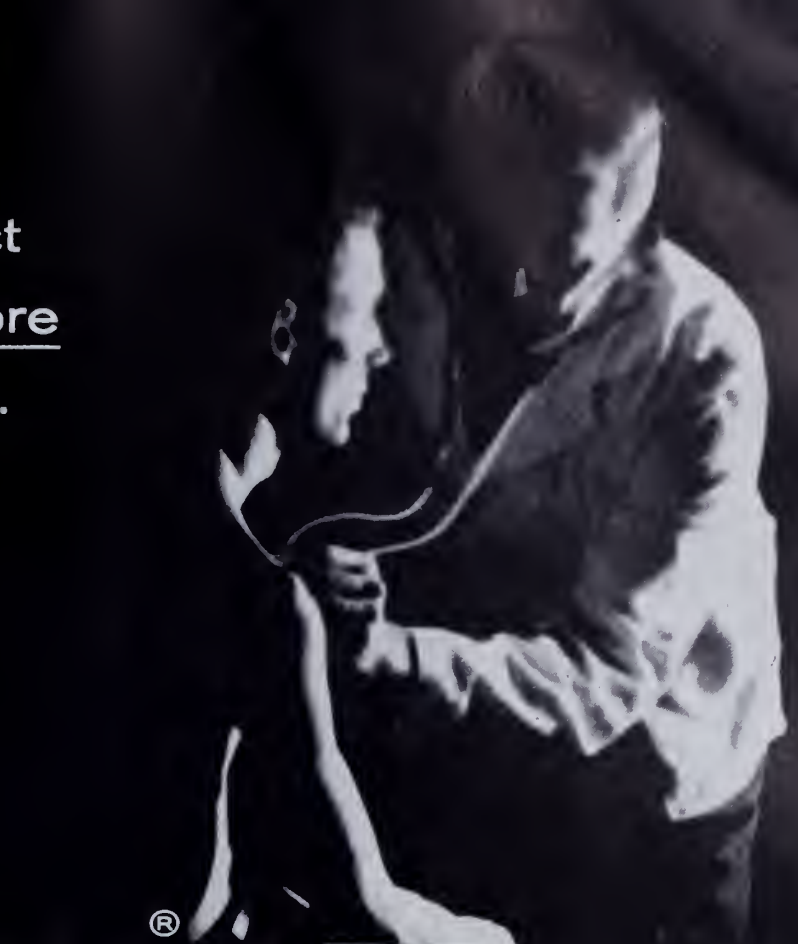
1. Data in the files of the Department of Medical Research, Winthrop Laboratories. 2. Hinkel, E. T., Jr.; Fisher, M. P., and Tainter, M. L.: J. Am. Pharm. A. (Scient. Ed.) 48:384, July, 1959.

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Dosage: Adults: 2 capsules 3 or 4 times a day for 3 to 5 days.
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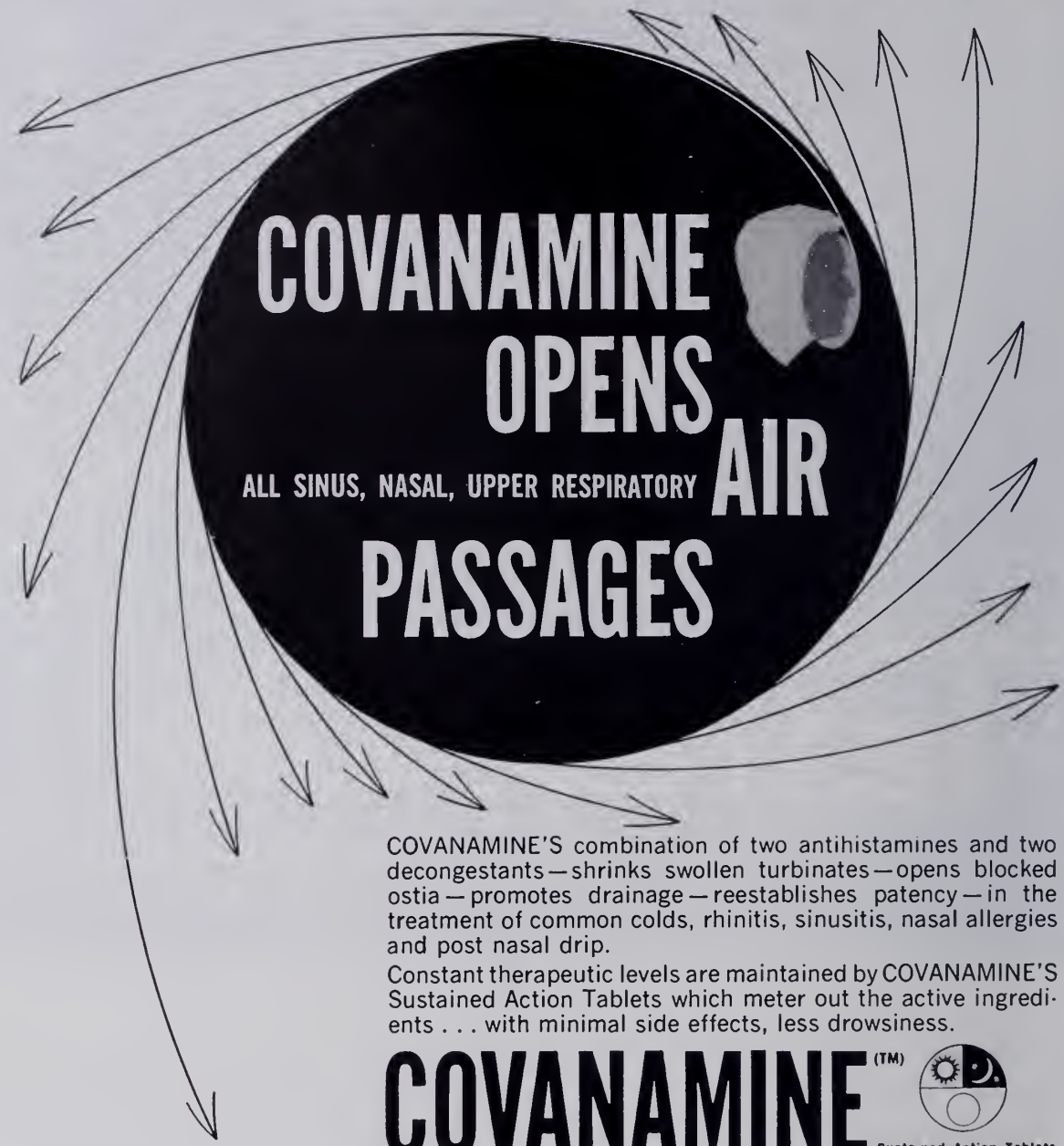
According to a report by the Council on Drugs of the American Medical Association,* antibiotics may be administered for prophylaxis against secondary bacterial invaders in the following types of patients with influenza: pregnant women; debilitated infants; older individuals; patients being treated for other bacterial infections with chemotherapeutic agents, and patients with chronic, nonallergic respiratory disease.

*Council on Drugs, J.A.M.A. 165:58 (Sept. 7) 1957.

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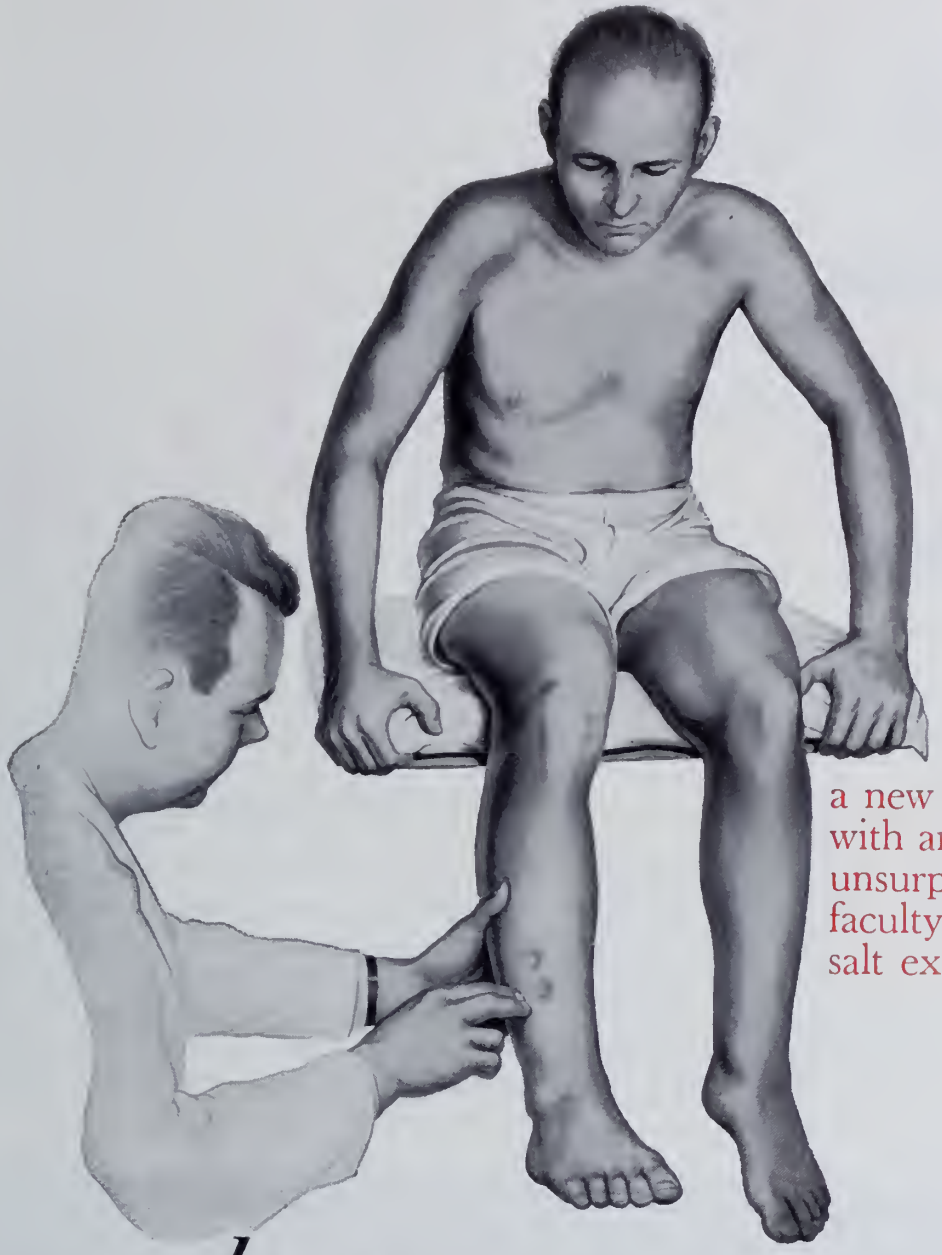
Each Sustained Action (continuous release) COVANAMINE tablet contains: phenylephrine HCl 15 mg., phenylpropanolamine HCl 25 mg., Chlorpheniramine maleate 4 mg., and pyrilamine maleate 25 mg.

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a new diuretic with an unsurpassed faculty for salt excretion

as salt goes, so goes edema

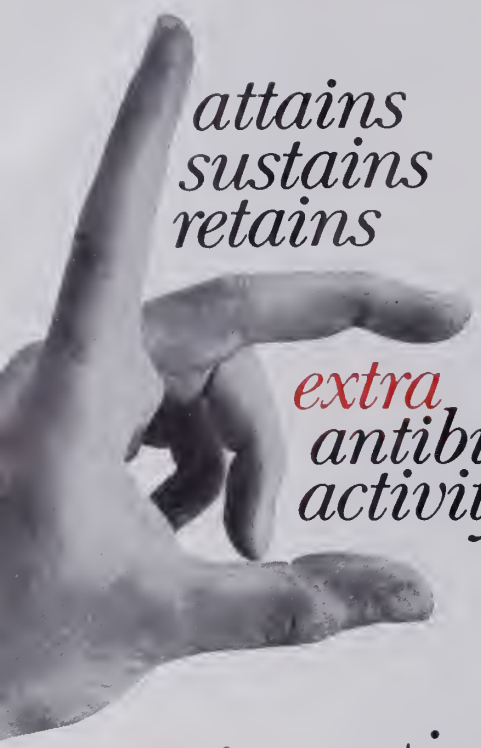
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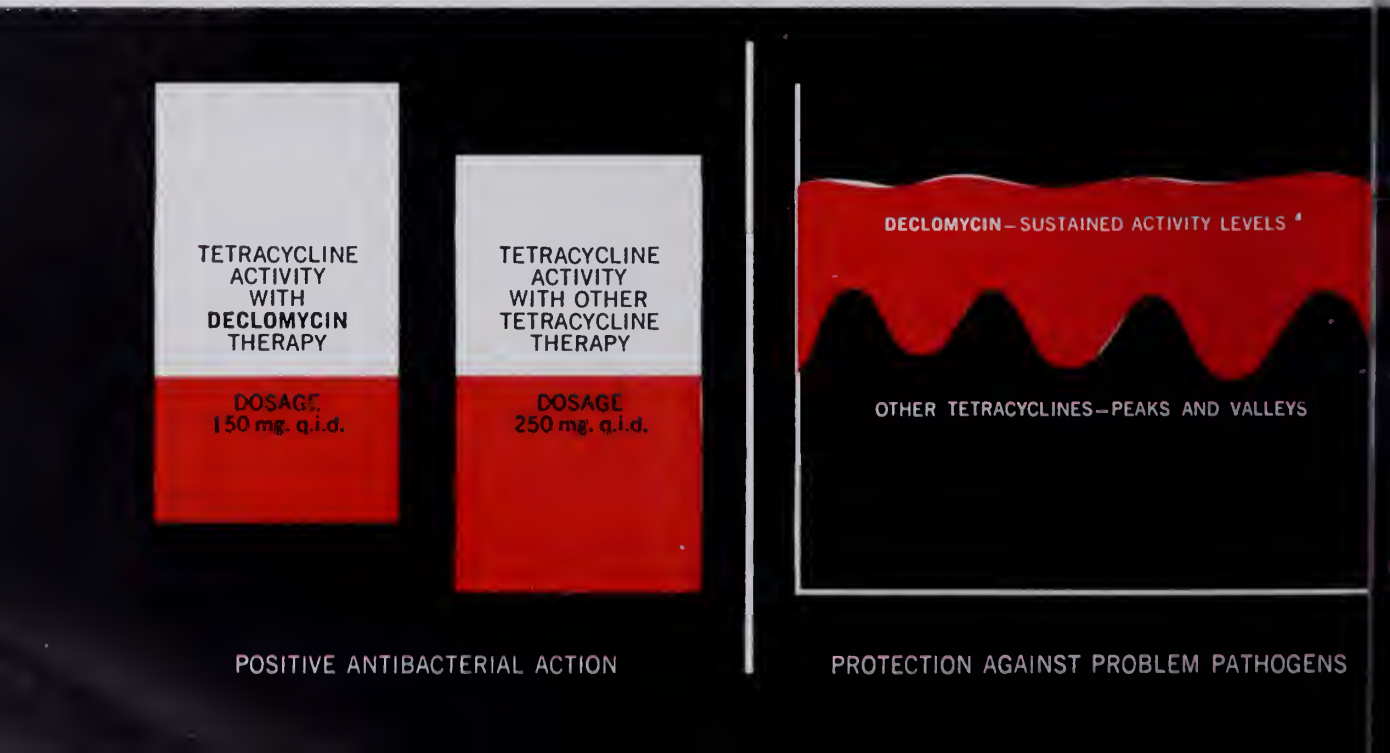
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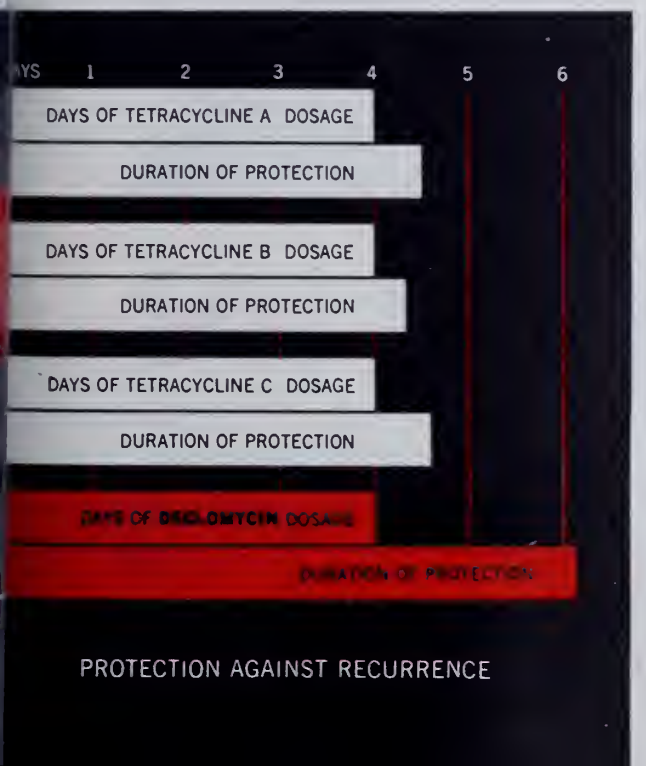


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DELALUTIN offers these advantages over other progestational agents

• long-acting sustained therapy • more effective in producing and maintaining a completely matured secretory endometrium • no androgenic effect • more concentrated solution requiring injection of less vehicle • unusually well-tolerated, even in large doses • fewer injections required • low viscosity makes administration easy

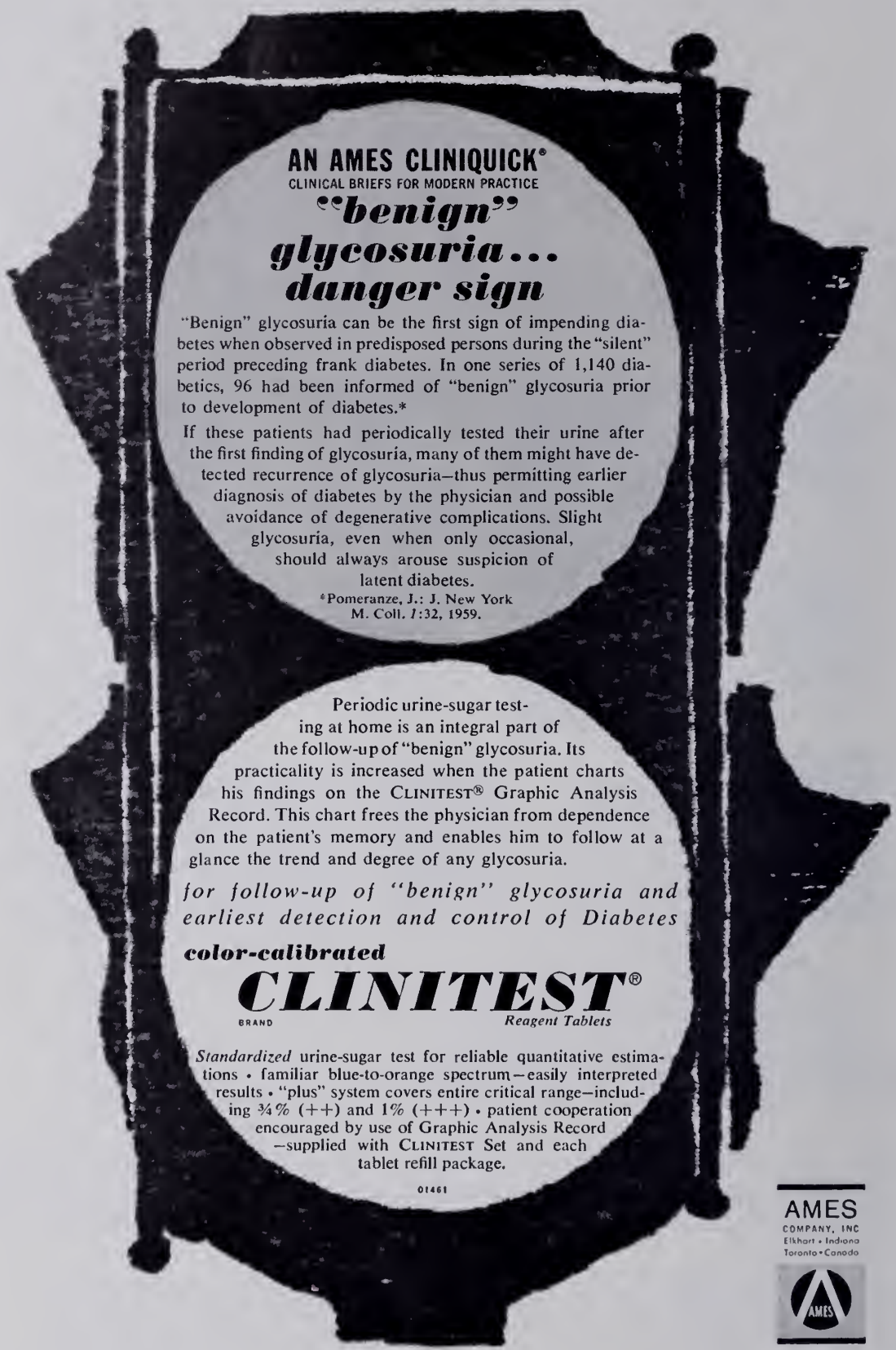
Complete information on administration and dosage is supplied in the package insert

Supply:
Vials of 2 and 10 cc., each containing 125 mg. of hydroxyprogesterone caproate in benzyl benzoate and sesame oil.

Also available: DELALUTIN 2X in 5 cc. multiple-dose vials. Each cc. contains 250 mg. hydroxyprogesterone caproate in castor oil, preserved with benzyl alcohol.

SQUIBB *Squibb Quality—The Priceless Ingredient*

"DELALUTIN"® IS A SQUIBB TRADEMARK


AN AMES CLINIQUICK®
CLINICAL BRIEFS FOR MODERN PRACTICE
"benign"
glycosuria...
danger sign
"Benign" glycosuria can be the first sign of impending diabetes when observed in predisposed persons during the "silent" period preceding frank diabetes. In one series of 1,140 diabetics, 96 had been informed of "benign" glycosuria prior to development of diabetes.*
If these patients had periodically tested their urine after the first finding of glycosuria, many of them might have detected recurrence of glycosuria—thus permitting earlier diagnosis of diabetes by the physician and possible avoidance of degenerative complications. Slight glycosuria, even when only occasional, should always arouse suspicion of latent diabetes.
*Pomeranze, J.: J. New York M. Coll. 1:32, 1959.
Periodic urine-sugar testing at home is an integral part of the follow-up of "benign" glycosuria. Its practicality is increased when the patient charts his findings on the CLINITEST® Graphic Analysis Record. This chart frees the physician from dependence on the patient's memory and enables him to follow at a glance the trend and degree of any glycosuria.
for follow-up of "benign" glycosuria and earliest detection and control of Diabetes
color-calibrated
CLINITEST®
BRAND
Reagent Tablets
Standardized urine-sugar test for reliable quantitative estimations • familiar blue-to-orange spectrum—easily interpreted results • "plus" system covers entire critical range—including ¾% (++) and 1% (+++) • patient cooperation encouraged by use of Graphic Analysis Record—supplied with CLINITEST Set and each tablet refill package.
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AMES



DORNWAL® HAS BEEN CALLED "THE GENERAL TRANQUILIZER FOR GENERAL PRACTICE."

Suppose the physician visiting this patient finds that he has to be hospitalized. Certainly he wants an alert but not excited fellow who can respond to the history and physical on admission. Depending on the condition, of course, the thing to do is to give the patient one or two tablets of Dornwal before he ever leaves his home.

Dornwal will calm the patient but won't make him drowsy or give him feelings of depersonalization. And what's more, while Dornwal most assuredly tranquilizes, it won't interfere with most other medications that your subsequent examination or laboratory studies may indicate.

Since every man in general practice encounters such situations almost daily, it makes good sense to keep some tablets in one's bag, doesn't it? We will be glad to send you a supply.

Dosage: One or two 200 mg. tablets three times a day. Children, age 6 to 16, one or two 100 mg. tablets two times a day. Administration limited to three months' duration.

Supplied: 200 mg. yellow scored tablets, and 100 mg. pink tablets, each in bottles of 100 and 500.

P.S. For the "Genericist", Dornwal is amphenidone

No absolute contraindications to the use of Dornwal are known. There have been no reports or evidence of habituation, addiction or drug tolerance in animal or clinical studies. Dornwal is relatively free from untoward effects when administered at recommended dosages.

Maltbie Laboratories Division,
Wallace & Tiernan Inc., Belleville 9, N. J.

Maltbie

PDW-12



Of special significance to the physician is the symbol

When he sees it engraved on a Tablet of Quinidine Sulfate he has the assurance that the Quinidine Sulfate is produced from Cinchona Bark, is alkaloidally standardized, and therefore of unvarying activity and quality.

When the physician writes "DR" (Davies, Rose) on his prescriptions for Tablets Quinidine Sulfate, he is assured that this "quality" tablet is dispensed to his patient.

Rx Tablets Quinidine Sulfate Natural
0.2 Gram (or 3 grains)
Davies, Rose

Clinical samples sent to physicians on request

Davies, Rose & Company, Limited
Boston 18, Mass.

Q-7

How to help your patient stick to a low calorie diet

The secret ingredient in a successful diet is acceptance. A low calorie diet that lets the patient work out equivalent variations will win his approval. A too-rigid diet begs to be broken. Pictured are dishes any dieter would find appetizing: chicken flavored with garlic, fruit-garnished gelatin, grapefruit, raw carrot, celery, pepper and radish nibbles. Variations might be broiled fish, simple green salads. All can be interestingly seasoned, attractively served, to keep the patient's enthusiasm from flagging.



And a glass of beer can add zest to your patient's diet.

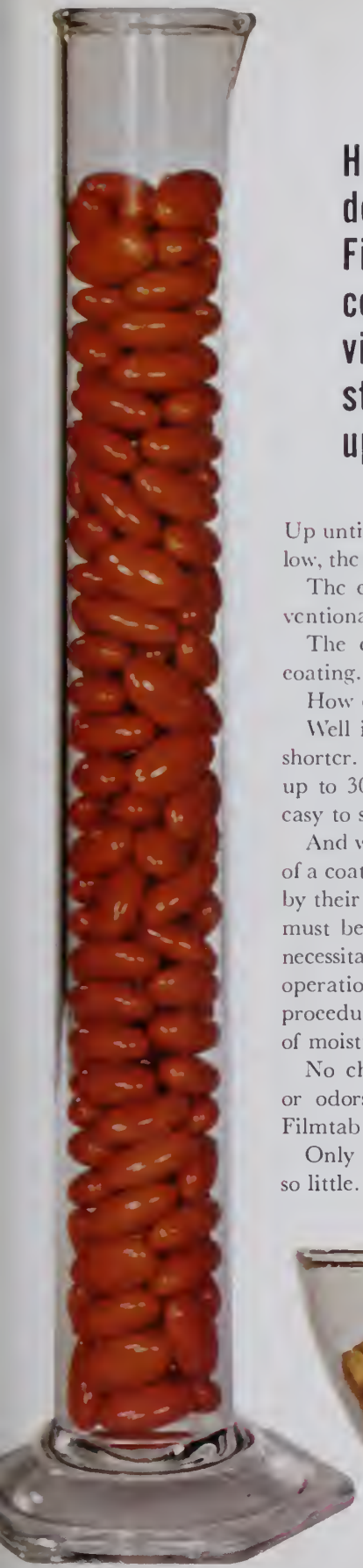
104 calories, 8 oz. glass
(Average of American Beers)



Appetizing diet food gives a patient an incentive.

United States Brewers Foundation

For reprints of this and 11 other diet menus, write us at 535 Fifth Avenue, N. Y. 17, N. Y.



How do Filmtab® coated vitamins stack up?

Up until the moment we put the coatings on the Optilets® below, the tablets were all the same. Now, consider the differences.

The column on the left contains 125 Optilets with a conventional sugar coating.

The column on the right—125 Optilets with a Filmtab coating.

How do they stack up?

Well it's easy to see that the column on the right is much shorter. That's because the Filmtab coating cuts tablet bulk up to 30%. The result is a small, streamlined vitamin that's easy to swallow—the most compact tablet of its kind.

And when it comes to protecting potency (the main function of a coating), the Filmtab is in a class by itself. Sugar coatings, by their very nature, are aqueous solutions. Yet every measure must be taken to keep moisture out of the vital tablet core, necessitating "seal" coats which also increase bulk. The Filmtab operation, on the other hand, is essentially an anhydrous procedure. Seal coats are neither used nor needed. The chances of moisture being trapped inside the tablet are infinitesimal.

No chipping or breaking, no vitamin tastes or odors, no wasted vitamins—thanks to the Filmtab coating.

Only the Abbott Filmtab offers so much in so little.

ABBOTT





Filmtab—Film-sealed Tablets, Abbott.

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Abbott Vitamins Stay On the Table



...in attractive daily-reminder table-bottles

MAINTENANCE FORMULAS

DAYTEENS™ To help insure optiomal nutrition in growing teenagers

Each Filmtab® represents:

Vitamin A	(5000 units) 1.5 mg.
Vitamin D	(1000 units) 25 mcg.
Thiamine Mononitrate (B_1)	2 mg.
Riboflavin (B_2)	2 mg.
Nicotinamide	20 mg.
Pyridoxine Hydrochloride	0.5 mg.
Cobalamin (Vitamin B_{12})	2 mcg.
Calcium Pantothenate	5 mg.
Ascorbic Acid (C)	50 mg.
Iron (as sulfate)	10 mg.
Copper (as sulfate)	0.15 mg.
Iodine (as calcium iodate)	0.1 mg.
Manganese (as sulfate)	0.05 mg.
Magnesium (as oxide)	0.15 mg.
Calcium (as phosphate)	250 mg.
Phosphorus (as calcium phosphate)	193 mg.

In table bottles of 100, bottles of 250 & 1000

DAYALETS® Extra-potent maintenance formulas, ideal for the nutritionally "run-down"

Each Filmtab® represents:

Vitamin A	3 mg. (10,000 units)
Vitamin D	25 mcg. (1000 units)
Thiamine Mononitrate	5 mg.
Riboflavin	5 mg.
Nicotinamide	25 mg.
Pyridoxine Hydrochloride	2 mg.
Cobalamin (Vitamin B_{12})	2 mcg.
Calcium Pantothenate	5 mg.
Ascorbic Acid	100 mg.

In table bottles of 100, bottles of 50, 250 & 1000

DAYALETS-M® Each Filmtab represents all the vitamins of Dayalets plus the following:

Iron (as sulfate)	10 mg.
Copper (as sulfate)	1 mg.
Iodine (as calcium iodate)	0.15 mg.
Cobalt (as sulfate)	0.1 mg.
Manganese (as sulfate)	1 mg.
Magnesium (as oxide)	5 mg.
Zinc (as sulfate)	1.5 mg.
Molybdenum (as sodium molybdate)	0.2 mg.

In table bottles of 100 & 250, bottles of 1000

THERAPEUTIC FORMULAS

OPTILETS® Therapeutic formulas for more severe deficiencies—illness, infection, etc.

Each Filmtab® represents:

Vitamin A	7.5 mg.(25,000 units)
Vitamin D	25 mcg. (1000 units)
Thiamine Hydrochloride	10 mg.
Riboflavin	5 mg.
Nicotinamide	100 mg.
Pyridoxine Hydrochloride	5 mg.
Cobalamin (Vitamin B_{12})	6 mcg.
Calcium Pantothenate	20 mg.
Ascorbic Acid	200 mg.

In table bottles of 30 & 100, bottles of 1000

OPTILETS-M® Each Filmtab represents all the vitamins of Optilets plus the following:

Iron (as sulfate)	10 mg.
Copper (as sulfate)	1 mg.
Iodine (as calcium iodate)	0.15 mg.
Cobalt (as sulfate)	0.1 mg.
Manganese (as sulfate)	1 mg.
Magnesium (as oxide)	5 mg.
Zinc (as sulfate)	1.5 mg.
Molybdenum (as sodium molybdate)	0.2 mg.

In table bottles of 30 & 100, bottles of 1000

SUR-BEX® WITH C Therapeutic B-complex with C, for convalescence, stress, post-surgery.

Each Filmtab® represents:

Thiamine Mononitrate	6 mg.
Riboflavin	6 mg.
Nicotinamide	30 mg.
Pyridoxine Hydrochloride	2.5 mg.
Cobalamin (Vitamin B_{12})	2 mcg.
Calcium Pantothenate	10 mg.
Ascorbic Acid	150 mg.
Desiccated Liver, N.F.	150 mg.
Liver Fraction 2, N.F.	150 mg.
Brewer's Yeast Dried	150 mg.

In table bottles of 60, bottles of 100, 500 & 1000

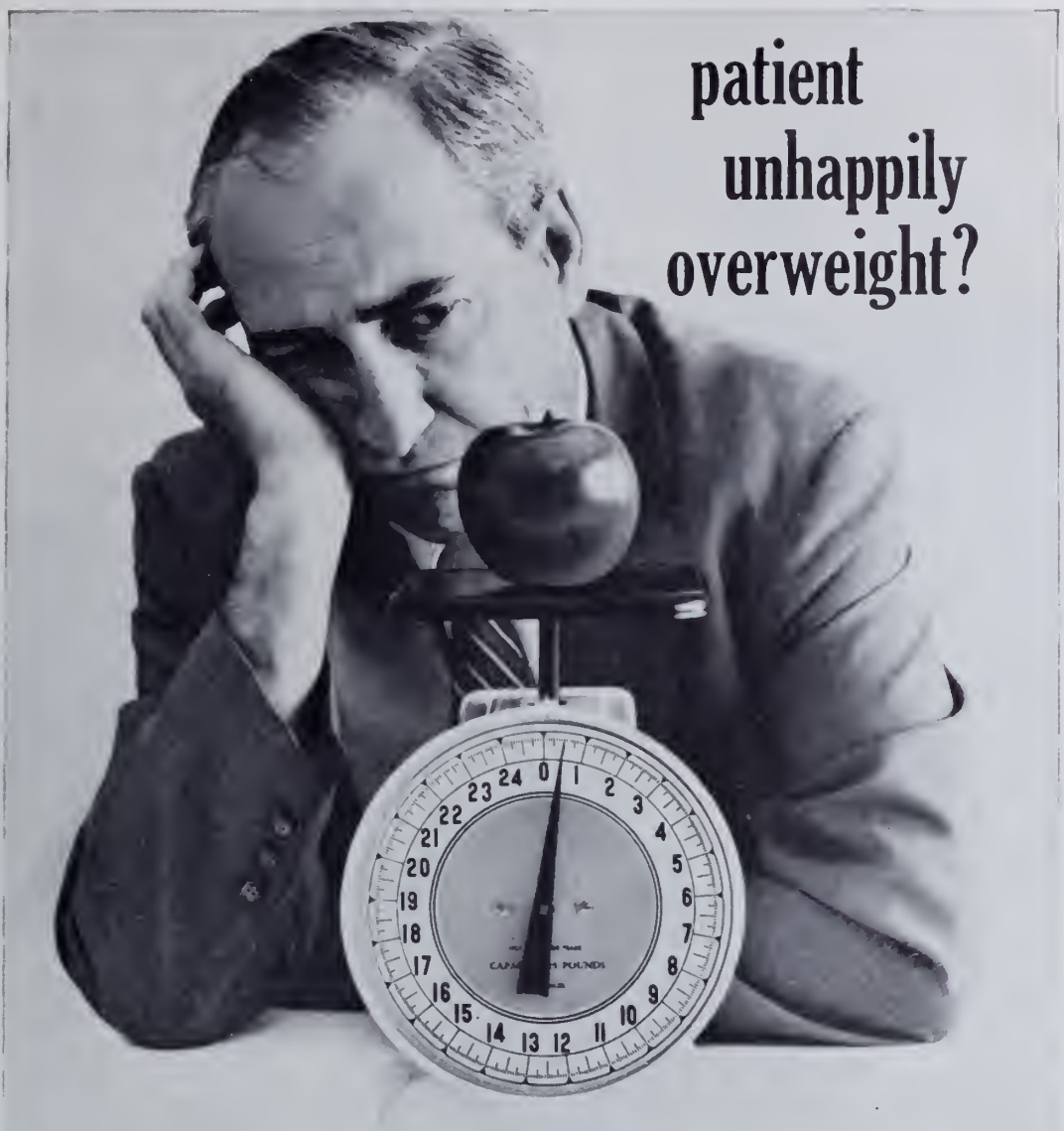
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'METHEDRINE®

brand Methamphetamine Hydrochloride

Controls food craving, keeps the reducer happy—In obesity, "our drug of choice has been methedrine . . . because it produces the same central effect with about one-half the dose required with plain amphetamine, because the effect is more prolonged, and because undesirable peripheral effects are significantly minimized or entirely absent."[1] Literature available on request.

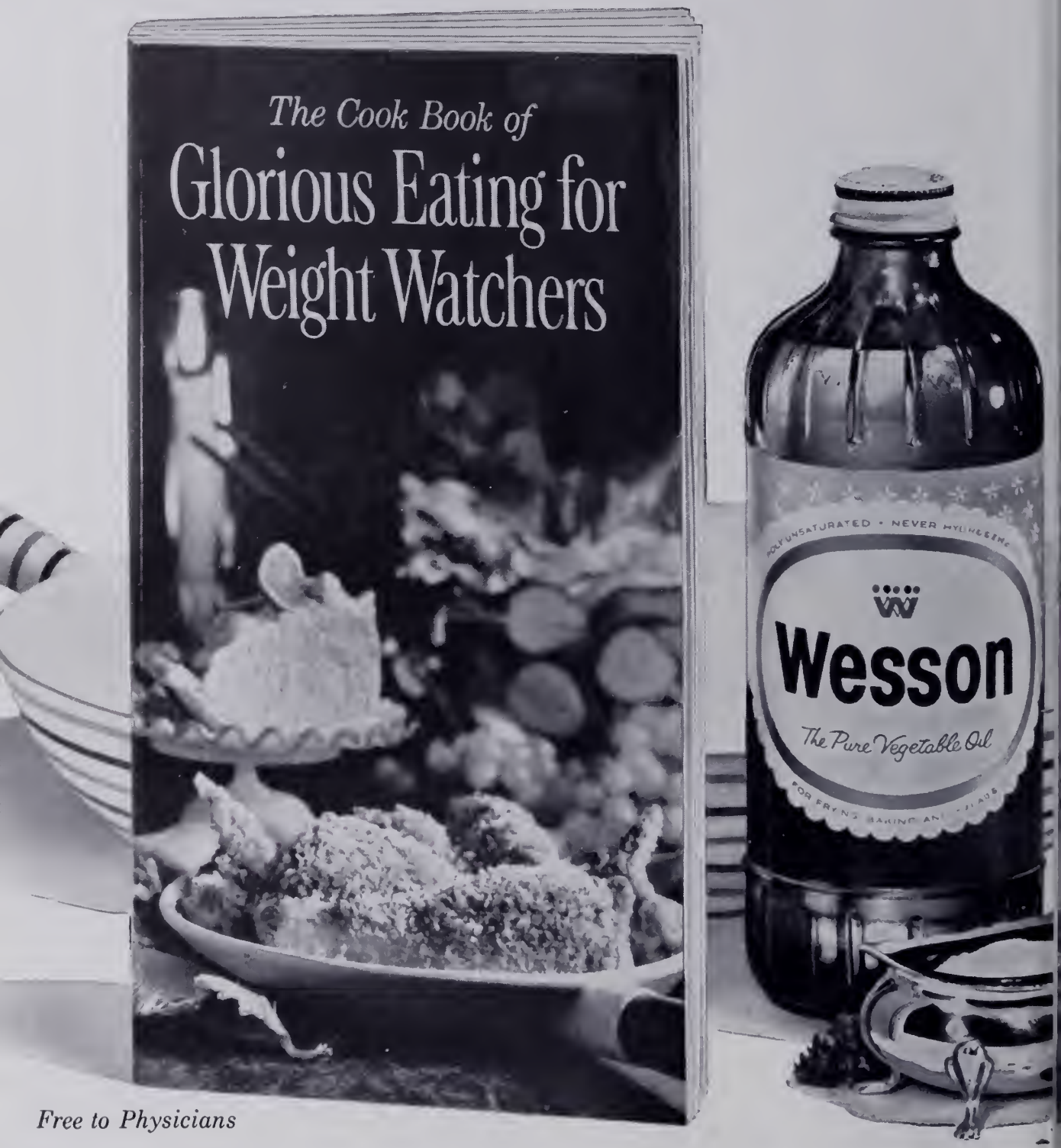
Supplied: Tablets 5 mg., scored. Bottles of 100 and 1000.

[1] Douglas, H. S.: West. J. Surg. 59:238 (May) 1951.

BURROUGHS WELLCOME & CO. (U. S. A.) INC., Tuckahoe, New York

A REALISTIC AID TO PROPER WEIGHT MAINTENANCE

At Last...New Cook Book Designed



Free to Physicians

Menus fulfill the recommended dietary allowances of the Food & Nutrition Board of the National Research Council.

o Prevent Overweight Through Better Eating Habits

Recipes and Menus that Provide Satiety and Appetite Appeal

The Cook Book of Glorious Eating for Weight Watchers fills the long-felt need for a weight control plan that is workable for everybody in the family. Realistic regimens are built around good, natural, readily-available foods enhanced by delicious methods of preparation. In place of "fad diets" or tasteless formulas, it provides for truly appetizing meals. It teaches and encourages the development of the healthful eating habits that can prevent overweight, America's #1 Health Problem. This full-color Cook Book contains 100 pages—248 delicious recipes each with calorie counts. Complete menus are here at 3 calorie levels—1200, 1800, 2600. Calorie levels are related to "best" weights by sex, age, size and extent of activity.

Many diets fail because they are "crash" programs only temporary in effect. Other diets are unbearable because they are monotonous and tasteless.

The Wesson way offers calorie controlled menus that emphasize appetite appeal, variety and satisfaction. They fulfill the recommended dietary allowances of the Food & Nutrition Board of the National Research Council.

All menus provide the proper amount of protein, carbohydrates, fat and the other essential nutrients. The principles of good nutrition are included to help the homemaker plan her own properly balanced, calorie controlled menus. With simple subtractions or additions to the same basic menu, each family member can be served delicious satisfying menus according to his individual needs.

Advance copies for physicians. "The Cook Book of Glorious Eating for Weight Watchers" has not yet been released to the general public. If you would like an advance copy for yourself, together with forms to enable patients to obtain their own *free* copies, please fill in coupon below.



Poly-unsaturated Wesson is unsurpassed by any readily available brand where a vegetable (salad) oil is medically recommended for a cholesterol depressant regimen. As an aid to physicians, Wesson has made available "Your Cholesterol Depressant Diet Book". This book is for professional distribution only—not offered *to laymen.*

Please do not confuse that offer with this one. "The Cook Book of Glorious Eating for Weight Watchers" *will be offered to the general public. It should be explained that this is not a reducing manual. Rather, it marks the first time that a major food manufacturer has taken so important a step in the interest of* prevention of obesity. *Therefore, it is expected that this new book will be highly useful to physicians in their practice.*

The Wesson People, Dept. M,
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Please send me my free advance copy of "The Cook Book of Glorious Eating for Weight Watchers."

Two dozen order blanks will be included for distribution to my patients who will receive free copies in return for 1 Wesson label. More blanks will be sent me if requested.

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Poly-unsaturated **Wesson,** *the Pure Vegetable Oil, is Never Hydrogenated.*



IN COLDS AND SINUSITIS— THE RIGHT AMOUNT OF "INNER SPACE" RIGHT AWAY

Neo-Synephrine hydrochloride relieves the boggy feeling of colds immediately and safely, without causing systemic toxicity or chemical harm to nasal membranes. Turbinates shrink, sinus ostia open, ventilation and drainage resume, and mouth-breathing is no longer necessary.

Gentle Neo-Synephrine shrinks nasal membranes for from two to three hours without stinging or harming delicate respiratory tissues. Post-therapeutic turgescence is minimal. Neo-Synephrine does not lose its effectiveness with repeated applications nor does it cause central nervous stimulation, jitters, insomnia or tachycardia.

Neo-Synephrine solutions and sprays produce shrinkage of tissue without interfering with ciliary activity or the protective mucous blanket.

For wide latitude of effective and safe treatment, Neo-Synephrine hydrochloride is available in nasal sprays for adults and children; in solutions from ⅛% to 1%; and in aromatic solution and water soluble jelly.

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New York 18, N. Y.

NEO-SYNEPHRINE®
(Brand of phenylephrine hydrochloride)
hydrochloride
NASAL SOLUTIONS AND SPRAYS



Lifts depression...as it calms anxiety!

Smooth, balanced action lifts depression as it calms anxiety...rapidly and safely

Balances the mood – no "seesaw" effect of amphetamine-barbiturates and energizers. While amphetamines and energizers may stimulate the patient – *they often aggravate anxiety and tension.*

And although amphetamine-barbiturate combinations may counteract excessive stimulation – *they often deepen depression.*

In contrast to such "seesaw" effects, Deprol's smooth, *balanced* action lifts depression as it calms anxiety – both at the same time.

Acts swiftly – the patient often feels better, sleeps better, within a few days. Unlike the delayed action of most other antidepressant drugs, which may take two to six weeks to bring results, Deprol relieves the patient quickly – often within a few days. Thus, the expense to the patient of long-term drug therapy can be avoided.

Acts safely – no danger of liver damage. Deprol does not produce liver damage, hypotension, psychotic reactions or changes in sexual function – frequently reported with other antidepressant drugs.

Dosage: Usual starting dose is 1 tablet q.i.d. When necessary, this dose may be gradually increased up to 3 tablets q.i.d.

Composition: 1 mg. 2-diethylaminoethyl benzilate hydrochloride (benactyzine HCl) and 400 mg. meprobamate. **Supplied:** Bottles of 50 light-pink, scored tablets. Write for literature and samples.

▲Deprol▲®

WALLACE LABORATORIES / *Cranbury, N. J.*

CD-2839

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SQUIBB VITAMINS FOR THERAPY

For your patients with infections or other illnesses who need therapeutic vitamin support. Each Theragran supplies the essential vitamins in truly therapeutic amounts:

Vitamin A	25,000 U.S.P. Units
Vitamin D	1,000 U.S.P. Units
Thiamine Mononitrate	10 mg.
Riboflavin	10 mg.
Niacinamide	100 mg.
Vitamin C	200 mg.
Pyridoxine Hydrochloride	5 mg.
Calcium Pantothenate	20 mg.
Vitamin B_{12}	5 mcg.

SQUIBB *Squibb Quality—the Priceless Ingredient*

'Theragran' is a Squibb trademark

"nutrition...present as a modifying or complicating factor in nearly every illness or disease state"[1]

1. Youmans, J. B.: Am. J. Med. 25:659 (Nov.) 1958

cardiac diseases "Who can say, for example, whether the patient chronically ill with myocardial failure may not have a poorer myocardium because of a moderate deficiency in the vitamin B-complex? Something is known of the relationship of vitamin C to the intercellular ground substance and repair of tissues. One may speculate upon the effects of a deficiency of this vitamin, short of scurvy, upon the tissues in chronic disease."[2] 2. Kampmeier, R. H.: Am. J. Med. 25:662 (Nov.) 1958

arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]

3. Fernandez-Herlihy, L.: Lahey Clinic Bull. 11:12 (July-Sept.) 1958

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition. National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser, W. and Fong, T. C. C. In Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G. A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec. 10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]

8. Duncan, G. G.: Diseases of Metabolism, 4th edition, W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

FOR FULL INFORMATION SEE YOUR SQUIBB PRODUCT REFERENCE OR PRODUCT BRIEF.

new clinical study[1] cites beneficial results in over 90% of cases in dry, itchy, scaly skin with Sardo®

in the bath

Use of **SARDO** in 118 dermatological patients to relieve dry, itchy, scaly, fissured skin achieved these excellent results:

CASES	AFTER SARDO*		
	Excellent	Good	Poor
49 Senile skin	32	13	4
26 Dry Skin in younger patients (diabetes, etc.)	14	11	1
20 Atopic dermatitis	8	10	2
13 Actinic changes	9	4	–
10 Ichthyosis	3	4	3
Skin Conditions	Benefited	No Benefit	
20 Nummular dermatitis	19	1	
10 Neurodermatitis	10	–	



SARDO acts[1,2] to (A) lubricate and soften skin, (B) replenish natural emollient oil, (C) prevent excessive evaporation of essential moisture.

SARDO releases millions of microfine water-miscible globules to provide a soothing suspension which enhances the efficacy of your other therapy.

SARDO is pleasant, convenient, easy to use; non-sticky, non-sensitizing. Bottles of 4, 8 and 16 oz.

1. Weissberg, G.: Clin. Med., June 1960.

2. Spoor, H. J.: N. Y. St. J. Med., Oct. 15, 1958.

*patent pending
T.M. ©1960

for **SAMPLES** and complete reprint of Weissberg paper, please write . . .

Sardeau, Inc. 75 East 55th Street, New York 22, N. Y.



even in allergic infants



FROM A CLINICAL STUDY* IN ANNALS OF ALLERGY

Patients	200 infants and children, ages 2 months to 14 years
Diagnosis	Perennial allergic rhinitis
Therapy	Dimetane Elixir
Results	in 149, *good* results / in 40, *fair* results
Side Effects	Encountered in *only* 7 patients (in all except one, the side effect was mild drowsiness)

In allergic patients *of all ages,* Dimetane has been shown to work with an effectiveness rate of about 90% and to produce an exceptionally low incidence of side effects. Complete clinical data are available on request to the Medical Department. *Supplied:* DIMETANE Extentabs® (12 mg.), Tablets (4 mg.), Elixir (2 mg./5 cc.), new DIMETANE-TEN Injectable (10 mg./cc.) or new DIMETANE-100 Injectable (100 mg./cc.).

Robins

*MC GOVERN, J. P., MC ELHENNEY, T. R., HALL, T. R., AND BURDON, K.D.: ANNALS OF ALLERGY 17:915, 1959.

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Dependable
Pain Reliever

Professional confidence in the uniformity, potency and purity of Bayer Aspirin is evidenced by ever increasing recommendation. Today Bayer Aspirin is the most widely accepted brand of analgesic in the world.

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THE BAYER COMPANY, DIVISION OF STERLING DRUG INC., 1450 BROADWAY, NEW YORK 18, N.Y.



Put your low-back patient back on the payroll

Soma relieves stiffness –stops pain, too

YOUR CONCERN: Rapid relief from pain for your patient. Get him back to his normal activity, fast!

HOW SOMA HELPS: Soma provides direct pain relief while it relaxes muscle spasm.

YOUR RESULTS: With pain relieved, stiffness gone, your patient is soon restored to full activity—often in days instead of weeks.

Kestler reports in controlled study: *Average time for restoring patients to full activity: with Soma, 11.5 days; without Soma, 41 days.* (*J.A.M.A. Vol. 172, No. 18, April 30, 1960.*)

Soma is notably safe. Side effects are rare. Drowsiness may occur, but usually only in higher dosages. Soma is available in 350 mg. tablets. USUAL DOSAGE: 1 TABLET Q.I.D.

The muscle relaxant with an independent pain-relieving action

SOMA®

(carisoprodol, Wallace)

Wallace Laboratories, Cranbury, New Jersey



DORNWAL® IS THE TRANQUILIZER VERSATILE ENOUGH TO BE USED ALMOST ANYWHERE.

Take, for instance, the woman in our picture, suffering from a really severe tension headache. Aspirin she has tried, of course; but suppose she's called you and you prescribed Dornwal. What would you expect?

First, let us say you told the druggist to indicate the dosage that our clinical research has shown is useful in these cases — 1 or 2 tablets t.i.d. In all probability, she would experience relief of pain and a general relaxation in less than an hour. If she is doing her housework, she could go on with it, because she wouldn't get sleepy.

Dornwal is one tranquilizer that doesn't make people sleepy. It's a tranquilizer pure and simple. Its effectiveness you will see clearly the next time you encounter a patient given to tension headaches. Try Dornwal and see the results.

Dosage: One or two 200 mg. tablets three times a day. Children, age 6 to 16, one or two 100 mg. tablets two times a day. Administration limited to three months' duration.

Supplied: 200 mg. yellow scored tablets, and 100 mg. pink tablets, each in bottles of 100 and 500.

P.S. For the "Genericist", Dornwal is amphenidone

No absolute contraindications to the use of Dornwal are known. There have been no reports or evidence of habituation, addiction or drug tolerance in animal or clinical studies. Dornwal is relatively free from untoward effects when administered at recommended dosages.

Maltbie Laboratories Division,
Wallace & Tiernan Inc., Belleville 9, N. J.

Maltbie

PDW-11

THE EARLE JOHNSON SANATORIUM

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NEWER CONCEPTS OF CARDIORESPIRATORY DISEASE IN CHILDREN

Dr. William Waring, Chairman; Dr. Oscar Creech, Dr. Marion Ledbetter

April 13-15, 1961

This 2½ day course is designed primarily for pediatric practitioners who have not had special pulmonary or cardiac training. The first day will be devoted to respiration, the second to cardiology, and the third (half-day) will consist of application of principles previously discussed to actual patients. The Tulane faculty will be supplemented by two guest faculty members: Dr. Edward A. Gaensler of the Boston City Hospital and Dr. Patrick Ongley of the Mayo Clinic.

The program is jointly sponsored by the Tuberculosis Association of Greater New Orleans and the Division of Graduate Medicine of Tulane University. An early evening social function is planned for the first night to which faculty members, registrants, and wives are invited. Registration will be limited to 25.

EAR, NOSE AND THROAT IN GENERAL PRACTICE

Dr. Harold G. Tabb, Chairman

April 20-21, 1961

A concentrated course of lectures and demonstrations reviewing the diagnosis and management of the common ear, nose and throat diseases seen in general practice. Registration limited to twenty.



...the proof of the Patrician "200" is in the radiograph!

When you choose x-ray for private practice, look at performance as well as the price tag. "Economy" that is gained by short-cuts in table design or a reduction in power may mean slow exposures, blurred radiographs and repeated retakes. General Electric's Patrician "200" combination is designed with adequate power for private practice — a full 200 ma to stop anatomical movement sharply and clearly. Many other features found in larger installations are engineered into the Patrician: 81" table, independent tubestand, shutter limiting and automatic tube protection, to name just a few. And, considering its *uncompromising* G-E quality, this Patrician "package" is remarkably low priced.

Rent the Patrician through the G-E Maxi-service® plan that provides the complete installation, *including* maintenance, parts, tubes, insurance, local taxes — *everything* in one monthly fee. Get details from your G-E x-ray representative listed below.

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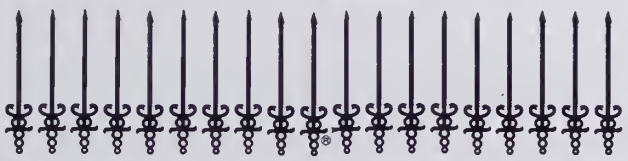
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1. Macy, I. G.; Kelly, H. J., and Sloan, R. E.: with the Consultation of the Committee on Maternal and Child Feeding of the Food and Nutrition Board, National Research Council: The Composition of Milks, Publication 254, National Academy of Sciences and National Research Council, Revised 1953. 2. Brown, G. W.; Tuholski, J. M.; Sauer, L. W.; Minsk, L. D., and Rosenstern, I.: Evaluation of Prepared Milks in Infant Nutrition; Use of the Latin Square Technique, J. Pediat. 56:391 (Mar.) 1960.

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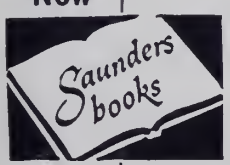
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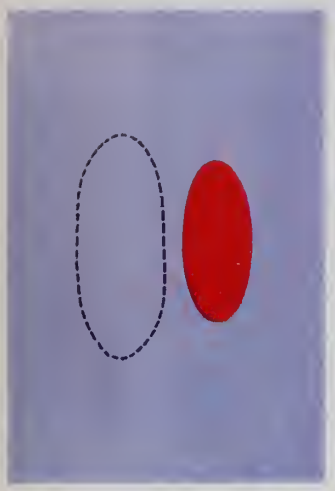
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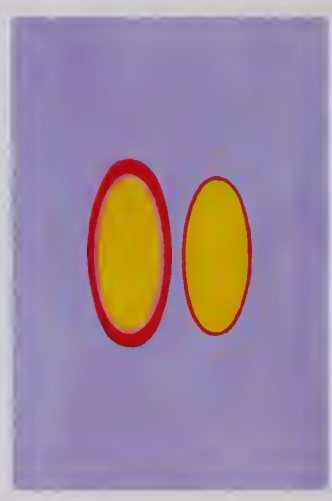
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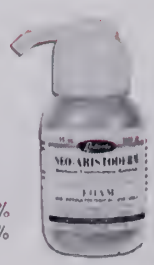
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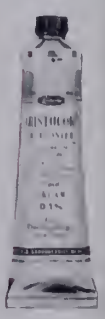
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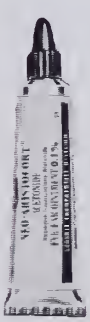


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Case history courtesy of Joel Goldman, M.D., Johnstown, Pa. These photographs of Dr. Goldman's patient were taken on November 10, 1960.

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APRIL, 1961

Published Monthly
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Roentgen Diagnosis of Abdominal Masses in Children

• Although it is not always possible to make an exact diagnosis, if one is alert for positive findings it will be found that quite often the mass may be rather accurately localized, and in many cases a rather exact diagnosis may be obtained.

CHARLES M. NICE, JR., M. D., Ph.D.
New Orleans

CONSIDERABLE information may be obtained concerning abdominal tumors with ordinary roentgen methods commonly used in hospitals and private offices. These studies include plain films of the abdomen in AP and lateral views, intravenous urography (occasionally retrograde), and barium studies of the upper and lower gastrointestinal tract. At times specialized procedures such as retroperitoneal gas injection or aortography may be of further assistance.

The general approach is first topographic, with further analysis to see if any specific sort of changes might be present which would allow a relatively specific diagnosis. Thus, we should first localize the tumor in the general region of the abdomen, then determine whether it is intraperitoneal or extraperitoneal, and finally attempt to find more specific diagnostic findings in the local mass.

From the Department of Radiology, Tulane University and the Department of Diagnostic Radiology, Charity Hospital, New Orleans, Louisiana.

A few anatomic details are worth reviewing first. The liver, gall bladder, first portion of the common duct, spleen, stomach, jejunum, and ilium, and the transverse sigmoid portions of the colon are considered intraperitoneal structures. The second and third portions of the duodenum, the distal portion of the common duct, the posterior wall of the ascending and descending portions of the colon, kidneys, ureters, and most of the uterus and bladder are essentially extraperitoneal in location. The duodenojejunal juncture (ligament of Treitz) may be displaced medially, laterally, upward, or downward by an intraperitoneal mass but if it is displaced anteriorly it usually indicates that the mass is retroperitoneal (Figures 1, 2). Similarly if the ascending or descending portions of the colon are displaced anteriorly this usually means that the mass is retroperitoneal. (Figures 3, 4). An intraperitoneal mass may cause partial obstruction of a ureter but complete suppression of excretion on the intravenous urogram usually indicates that there is retro-

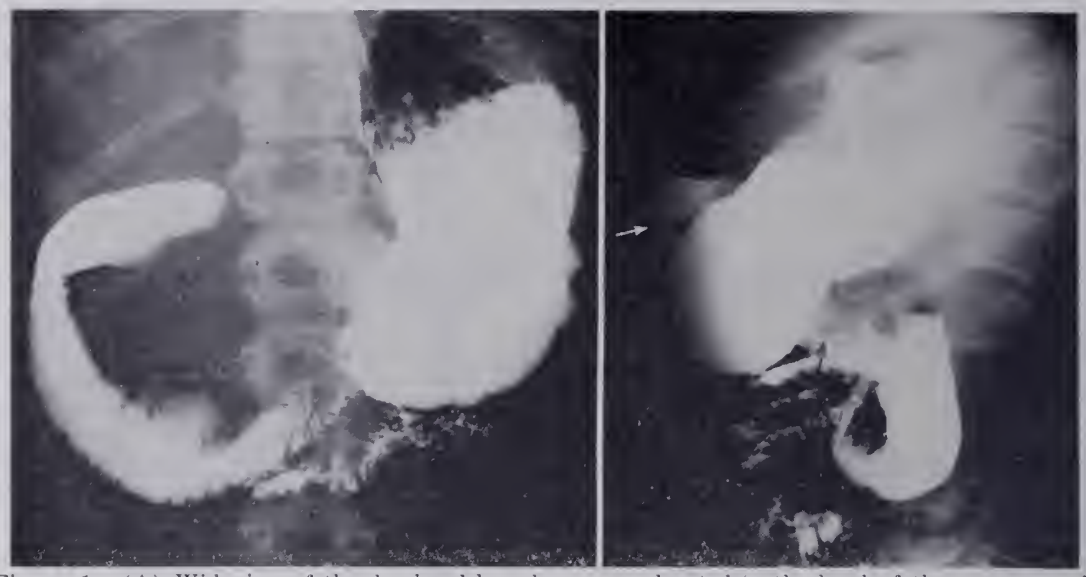


Figure 1. (A) Widening of the duodenal loop by a mass located in the head of the pancreas. The impression of the mass on the duodenum and antrum of the stomach is clearly seen. (B) Anterior displacement of the second portion of the duodenum is demonstrated (arrows). The mass was a leiomyosarcoma of the pancreas. (Courtesy of Charles C Thomas, Publisher)

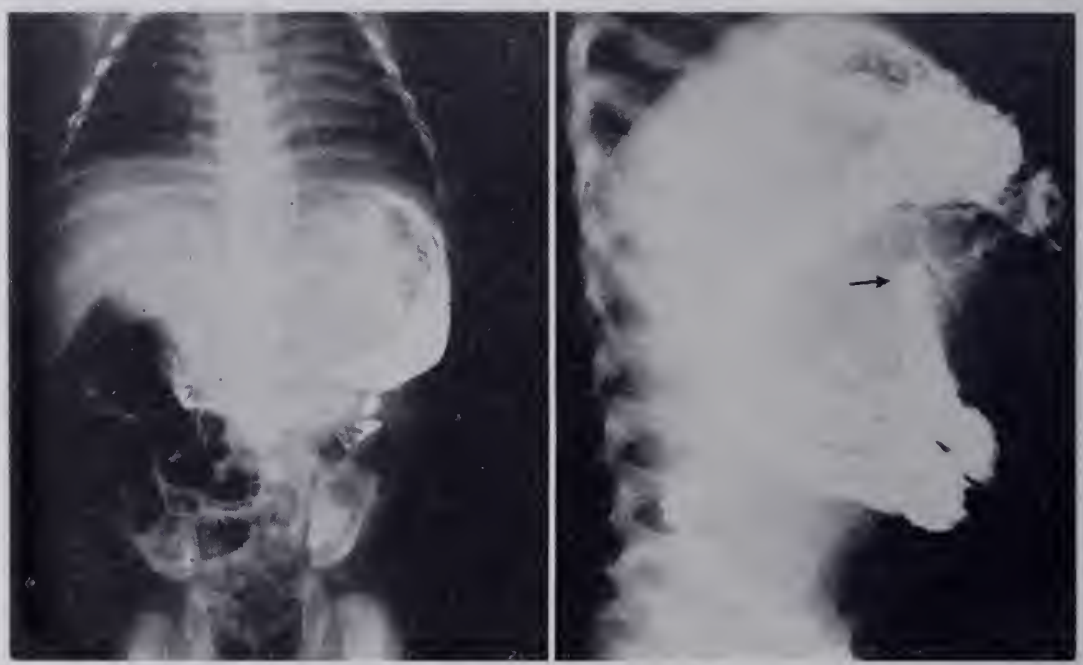


Figure 2. (A) Downward displacement only, of the duodenojejunal juncture (arrow) by a large mass within the left lobe of the liver. The mass was a primary hepatoma of the left lobe of the liver. In lateral view, in the same case, the duodenojejunal flexure was not displaced anteriorly. (B) Anterior displacement of the duodenojejunal flexure (arrow) by a retroperitoneal mass. The tumor was a neuroblastoma arising from extra-adrenal chromaffin tissue. (Courtesy of Charles C Thomas, Publisher)

peritoneal tumor, either primary or by secondary extension to the retroperitoneal tissues.

Intraperitoneal Tumors

The intraperitoneal tumors may be divided into masses in the region of the liver and spleen and other intraperitoneal masses. Enlargement of the spleen occurs in many diseases, usually being a medical problem. If there is a localized mass,

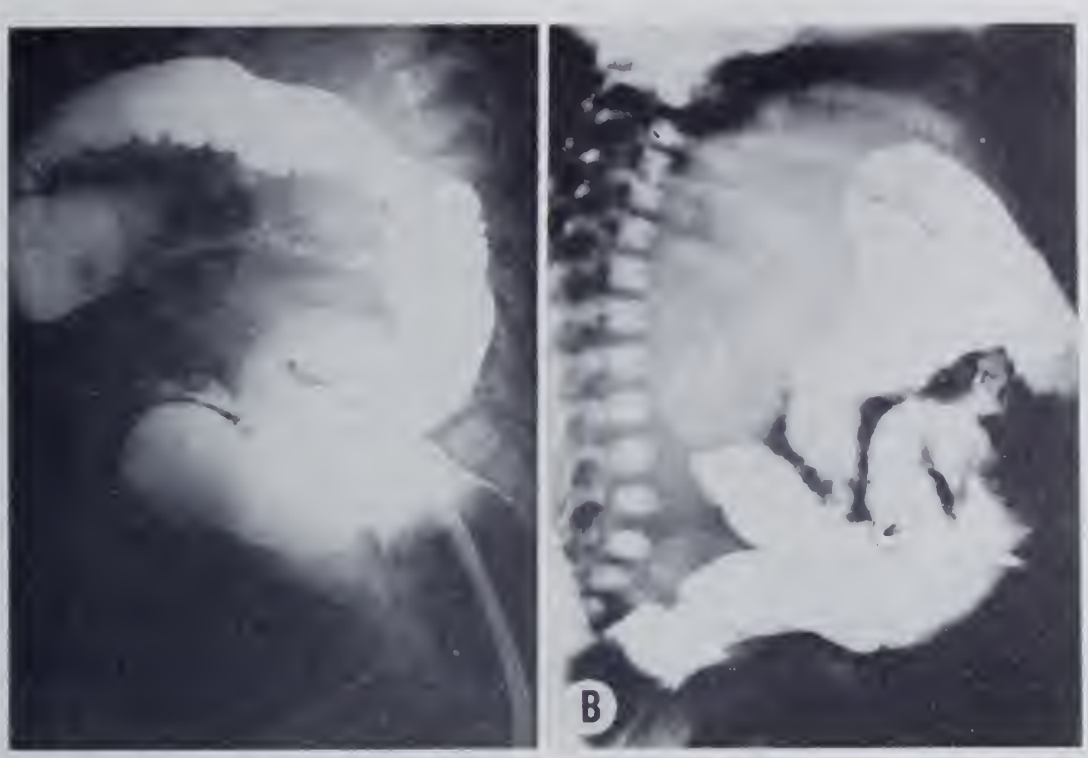


Figure 3. (A) The transverse colon is wrapped around a mass (a primary hepatoma of the liver) lying within the peritoneal cavity. The ascending and descending colon are not displaced anteriorly. (B) Anterior displacement of the ascending colon by a retroperitoneal cavernous hemangioma. (Courtesy of Charles C Thomas, Publisher)

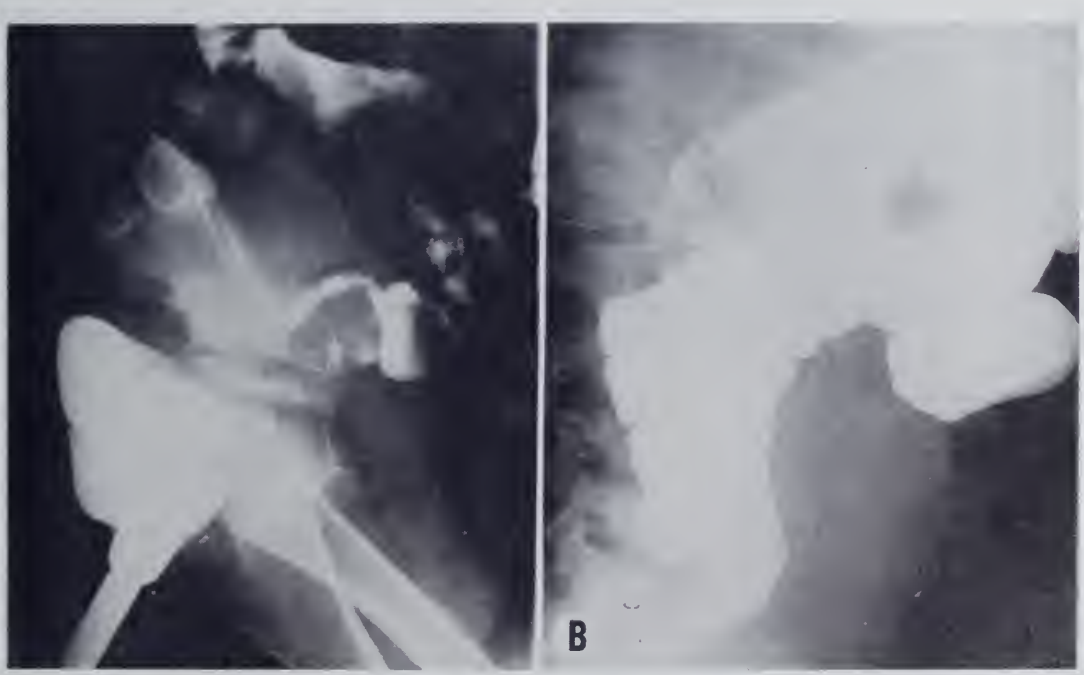


Figure 4. (A) Anterior displacement of the rectosigmoid by a retroperitoneal fibrosarcoma. (B) Posterior displacement of the rectosigmoid by a mesenteric cyst. This type of displacement indicates that the mass is suspended within the peritoneal cavity. (Courtesy of Charles C Thomas, Publisher)

which causes a local indentation into the stomach or which displaces the kidney in an unusual manner, this may be a cyst or tumor of the spleen. Usually when the spleen enlarges it will slide down over the anterior surface of the kidney so that the outline of the kidney is seen through the mass of the enlarged spleen.

In a similar manner the liver usually enlarges anteriorly to the right kidney but occasionally may depress it downward slightly. The liver may be enlarged in many systemic diseases. Specific tumors may cause enlargement of the right or left lobe of the liver or both lobes which would then simulate a general hepatic enlargement.

Hepatomas and hemangiomas may occur in the liver in childhood and both of these tumors may show calcification. Similar tumors occur in adults. Multiple cysts of the liver usually simulate general hepatic enlargement. Large solitary cysts may present with a very sharply demarcated border and may often be suspected on routine radiologic examinations described above. Occasionally a sarcoma of the liver is seen which usually causes a massive enlargement with considerable upward displacement of the diaphragm and with considerable displacement of the abdominal structures.

Choledochal cysts represent cystic dilatation of the common bile duct and are most commonly found in children. The cyst may occur rather high in the common duct and cause an impression on the lateral and posterior margin of the duodenal loop. Other cysts occur in the distal portion medial to the duodenal loop and cause enlargement similar to a mass in the head of the pancreas.

Other intraperitoneal masses that might be encountered include messenteric and omental cysts, alimentary duplication cysts, ovarian tumors, lymphangioma of the mesentery, meconium ileus cysts, and masses which have to be differentiated from tumors, including intussusception, appendiceal abscess, and subphrenic abscess. Omental cysts may be recognized because of the anterior location in the abdomen. A mesenteric cyst may be identified as intraperitoneal masses with rather sharply demarcated borders but otherwise no specific findings. Occasionally some calcification may be shown. A mesenteric cyst may arise in the anomalous mesocolon of the ascending colon and thereby displace the ascending colon anteriorly. A cyst in the middle portion of the omphalomesenteric or vitelline duct results in a formation of a subumbilical cystic mass.

Alimentary duplication cysts share one wall with segment of the alimentary tract and therefore may easily cause partial intestinal obstruction, the cyst itself showing a sharply outlined wall. Lymphangioma of the mesentery may show extensive infiltration between the bowel loops with no unusual distention of loops and may be accompanied by peripheral lymphangiomas.

The terminal distended loop of a bowel obstruction in meconium ileus may assume a cystic appearance and in some cases may show calcification in the wall. Ovarian tumors in children and adults show an intraperitoneal mass on one side of the pelvis, with a calcification, fat, or both as additional features.

Intussusception usually shows evidence of a soft tissue mass and partial obstruction. Contrast enema shows the "coiled spring" effect in many cases. An abscess in the abdomen shows evidence of a mass with gas bubbles or air fluid levels. Partial obstruction may occur.

Extraperitoneal Masses

A division is made between masses occurring in the renal and adrenal region and other extraperitoneal masses. Usually the former are quite readily recognized. Renal enlargements include hydronephrosis, Wilms's tumor in children, carcinoma in adults, renal cysts, bilateral polycystic disease, unilateral multicystic kidney, anomalies of renal fusion, large solitary renal cysts, and renal abscess. The plain films and urographic studies will usually determine whether the mass is due to a disease process intrinsic to the kidney.

Masses in the adrenal usually displace the kidney downward and cause some angulation at the ureteral pelvic juncture. Adrenal tumors include neuroblastoma, adrenal cortical tumors (adenoma and carcinoma), pheochromocytoma and ganglioneuroma.

Other extraperitoneal tumors fall largely into three groups: those arising in other organs usually in the extraperitoneal space (pancreas, uterus, prostate), primary unattached tumors, and primary or metastatic tumors involving the retroperitoneal lymph nodes.

Primary unattached tumors include retroperitoneal teratoma which often shows some calcification and usually may demonstrate bones that appear almost like a fetus *(fetus in fetu)*, ectopic neuroblastoma and ganglioneuroma may appear in the parts of the chromaffin system outside the adrenals throughout most of the central abdomen and even in the mediastinum. Retroperitoneal hemangioma and lymphangioma also appear in this group.

Cysts, pseudocysts, carcinoma, and the rare cystadenocarcinoma of the pancreas may enlarge the duodenal loop, appear between the stomach and transverse colon or may even appear as a mass pressing against the lesser curvature of the stomach. Hydrometrocolpos in infant females and hematometrocolpos in young girls at the menarche show enlargement of the uterus with upward displacement of the intraperitoneal structures. Occasionally a prostatic sarcoma may cause a characteristic elevation of the bladder in a cystogram.

Enlargement of the retroperitoneal lymph nodes occurs in lymphoma or may be due to metastases from primary tumors in the testis, ovary, or other intraperitoneal organs. Extraperitoneal abscesses may occur in the retroperitoneal space in the abdomen or pelvis or may appear as infected urachal cysts in the anterior abdomen or immediately below the umbilicus. Abscesses or hematomas may cause enlargement of the psoas muscle. Meningoceles may protrude internally into the abdomen or pelvis, as well as into the thorax. A retroperitoneal mass associated with the defect of the lumbar or sacral portion of the spine is characteristic.

It is not to be maintained that all abdominal masses may be separated and classified in the above categories and that an exact diagnosis may be made in all cases with simple roentgenographic studies. However, if one is alert for positive findings it will be found that quite often the mass may be rather accurately localized and in many cases a rather exact diagnosis may be obtained.

References

1. Margulis, A. R., Nice, C. M., Jr., and Rigler, L. G.: The roentgen findings in primary hepatoma in infants and children. An analysis of eleven cases. Radiology, 66:809, 1956.

2. Nice, Charles M., Jr., Margulis, Alexander R. and Rigler, Leo G.: A simple approach to the roentgen diagnosis of abdominal tumors in infants and children. Am. J. Roentgenol. & Rad. Therapy, 75:977, 1956.

3. Nice, Charles M., Jr., Margulis, Alexander R., and Rigler, Leo G.: Roentgen Diagnosis of Abdominal Tumors in Childhood. Charles C Thomas, Springfield, Ill., 1957.

4. Rigler, L. G.: Diagnosis of extragastrointestinal abdominal masses. Radiology, 21:229, 1933.

5. Wilson, J. W.: Diagnosis of abdominal cysts in infants and children. Radiology, 64:178, 1955.

Adrenocortoids in the Treatment of Pulmonary Tuberculosis*

• The author discusses the effect of the administration of adrenocortoids in conjunction with antituberculosis drugs in the treatment of 31 patients.

WM. W. COULTER, JR., M. D.†
Lafayette

SOME ten years ago there was a great growth of interest in the action of the adrenocortoids and the adrenocorticotrophic hormones. Many spectacular results have been obtained in a large number of diseases following the administration of these hormones. However, it was found that these hormones had little or no effect on some diseases or that the initial improvement was so transitory that the course of the illness was not greatly affected. Furthermore, it was noted that ACTH or the adrenocortoids have a profound detrimental effect on many diseases [1] including tuberculosis, active or apparently inactive. All of us have seen the reactivation of unrecognized or apparently inactive tuberculosis while the patient was treated for another disease such as rheumatoid arthritis, lupus erythematosus or bronchial asthma with ACTH or one of the adrenocortoids.[2] Experiments showed that cortisone and ACTH have a deleterious effect on animals infected by *Mycobacterium tuberculosis*.[3-5]

These unpleasant results gave rise to a series of studies which prompted the American Trudeau Society, in 1952, to warn against the use of these hormones in or for the treatment of tuberculosis.[6] It should be noted that these subjects were not properly, and in most cases, not at all covered by antituberculous therapy. Five years later the same Society advised that "There is no rule which can be substituted for informed clinical judgment and the careful assessment of the possible benefits against the possible complications of the therapy in each specific clinical situation." [7] A recent textbook [8] states that "These hormones (ACTH and corticosteroids) should not be used in the presence of *active or inactive tuberculosis*, recent or chronic gastrointestinal ulcers, active syphilis, renal insufficiency, or, perhaps, severe congestive failure if the failure is not the result of pulmonary disease." (Italics mine)

Because there are many diseases, some of them fatal, that can be alleviated by the administration of the adrenocortoids, studies were undertaken to determine if ACTH or cortisone could be given under the protection of antituberculous drugs. These studies demonstrated that the harmful effects of these hormones in tuberculous animals, including man, can be prevented by the simultaneous administration of anti-microbial drugs in proper doses and combinations if the bacilli are sensitive to these drugs.[9, 10] Of course, if the bacteria are already resistant to the antituberculous drugs in question, there is no protection.

Glucocortoids have, in addition to their other properties, an anti-inflammatory and anti-allergic effect and deposition of fibrous tissue is impeded. Because tuberculosis involves these reactions it would seem that the course of the disease could be altered by the administration of ACTH or one of the glucocortoids.

Many studies on this problem have been published from the United States [10, 20] and

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foreign countries with various degrees of enthusiasm.

Treatment

To clarify the indications for treatment with corticosteroids, in addition specific anti-tuberculosis drugs, thirty-one patients were studied. All were given combinations of two or three of the following drugs if the bacteria in question were sensitive to these antibacterial agents: isoniazid, 300-400 mg. daily, sodium or potassium para aminosalicylate, 15 gm. daily, streptomycin, one gram daily or three times a week. In the presence of bacterial resistance as manifested by laboratory findings, failure to improve on treatment or deterioration in the course of the disease, pyrazinamide, cycloserine, terramycin, kanamycin or viomycin were substituted or added to the basic regime above with due regard to the possible toxic effects. Surgical procedures were employed as indicated. Concomitant diseases were treated by the usual methods.

Complications

In no case was the tuberculosis made worse by adrenocortoid administration either in the course of the steroid treatment or after its discontinuance. No unrecognized disease was aggravated nor was any latent disease activated.

Administration of hydrocortisone to a 52 year old white male who had active pulmonary tuberculosis, active laryngeal histoplasmosis, dry gangrene of his right toe, an old myocardial infarct and diabetes mellitus caused his insulin requirement to be slightly elevated. On admission an x-ray of his chest revealed a 3 cm. cavity in the right upper lobe with pericavitary exudative disease. (Fig. 1a) His diabetes was controlled by increasing his insulin dosage to 55 u. NPH and 10 u. regular insulin. The gangrene was treated satisfactorily by conservative methods. Antituberculous therapy resulted in the disappearance of *Mycobacteria tuberculosis* from his sputa after five and a half months. The reaction around the cavity was less and though the cavity was still present at that date, it was smaller. (Fig. 1b)

At the beginning of his fifth month of hospitalization a lesion of the right vocal cord was found, which proved, by examination of the biopsy specimen, to be caused by infection by *Histoplasma capsulatum*.

Amphotericin B, 5 mg., intravenously, was started in 1000 cc. of 5% dextrose with 25 mg. of diphenhydramine hydrochloride (Benadryl®). The reaction of chills and fever was so severe that the patient refused further similar treatment. Twenty-five mg. of hydrocortisone was added to the daily infusion which diminished the side effects enough to make the patient continue treatment. The dosage of Amphotericin B was increased so that the daily dose reached 45 mg. in ten days. This medication was continued for fifty-four days. After the fifth day of Amphotericin B treatment no fever was observed but slight chills were occasionally seen while the infusion was being given.

The laryngeal lesion reverted to a normal appearance and the cavity disappeared, being represented by a linear scar on the x-ray. (Fig. 1c)

His insulin requirement rose gradually to 75 units (50 u. NPH and 25 u. regular) during these fifty-four days.

The patient was dismissed after nine months of hospitalization.

Response to Treatment

This group of patients was divided into two categories, namely, acute and chronic. In the acute cases the onset was noted later than four months before admission and was characterized by "flu-like" syndrome, pneumonia, or a severe cold which did not respond to ordinary measures. They were apparently in good health before the onset of the present illness.

Acute

Oral prednisone was used in every case with the exception of one case who was given prednisolone. The dosage varied from 60 mg. daily, reduced to 10 mg. over a period of fifteen days, to 15 mg. daily, reduced to 5 mg. over a period of three



Figures 1a, 1b, 1c

days, from patient to patient and it was continued from three to six weeks. The size of the dose within these limits made no appreciable difference.

Clinical Course

In every case when the prednisone was started the patient noted a prompt marked feeling of well-being and the anorexia was replaced by a normal appetite in one or two days. This gain in appetite resulted in a gain of two to ten pounds in the first month which was retained or continued more slowly after the discontinuance of the steroid treatment.

The temperature, which reached 104° to 105° in several cases, dropped to normal range in less than two weeks. Shortness of breath, when it was present, was relieved greatly. The patient's clinical appearance improved profoundly.

The cough and expectoration diminished so that the patient did not complain of this symptom after the second week and in most cases in two months the morning sputum was the only specimen available for examination, but on the average the conversion of the sputum from positive for *Mycobacteria tuberculosis* to negative under this treatment was less rapid than under antimicrobial treatment alone.

An illustrative case is presented.

Case Histories

A nineteen-year-old colored girl was in good health five weeks prior to admission to the hospital. At that time she developed a cough productive of yellow sputum. Because her symptoms became worse including loss of weight, malaise, night sweats and fever, under medical care, she entered this hospital.

The admission examination revealed an acutely ill, weak, hoarse, thin 93 lb. colored female whose temperature was 105°F. She coughed frequently, raising yellow sputum. She complained of slight dyspnea.

A roentgenogram revealed far advanced bilateral pulmonary tuberculosis. (Fig. 2a) Isoniazid and sodium para aminosalicylate were administered daily, with the addition of penicillin. On the second day streptomycin was added. Little effect was seen. On the third day prednisone was started, 5 mg. three times a day, which was reduced to 5 mg. twice daily after five days. Her toxic symptoms disappeared, her appetite returned, her cough diminished and her temperature dropped so that it was 98.6°F after one week of steroid treatment and remained within normal limits. *Mycobacteria tuberculosis* were not found in the sputum after the twenty-sixth day of hospitalization.

An x-ray revealed that the exudative components of the disease were greatly improved after thirty days of treatment, but the cavernous and fibrous elements remained. (Fig. 2b) Prednisone was discontinued and the patient continued to improve radiographically but the cavernous lesion (Fig. 2c) remained after seven months of hospitalization. She has so far refused surgery.

In another acute case (Fig. 4a) a white male, twenty years of age was treated with isoniazid, streptomycin and sodium para aminosalicylate for six weeks which resulted in diminution of the cough, a gain of eight pounds, and partial x-ray clearing of the exudative component of the disease. However the sputum remained positive for *Mycobacteria tuberculosis* and the cavity was still present. (Fig. 4b) Prednisolone was administered in a dosage of 15 mg. each six hours for three days, 10 mg. each six hours for three days, 5 mg. each six hours for three days, and finally 5 mg.



Figures 2a, 2b, 2c

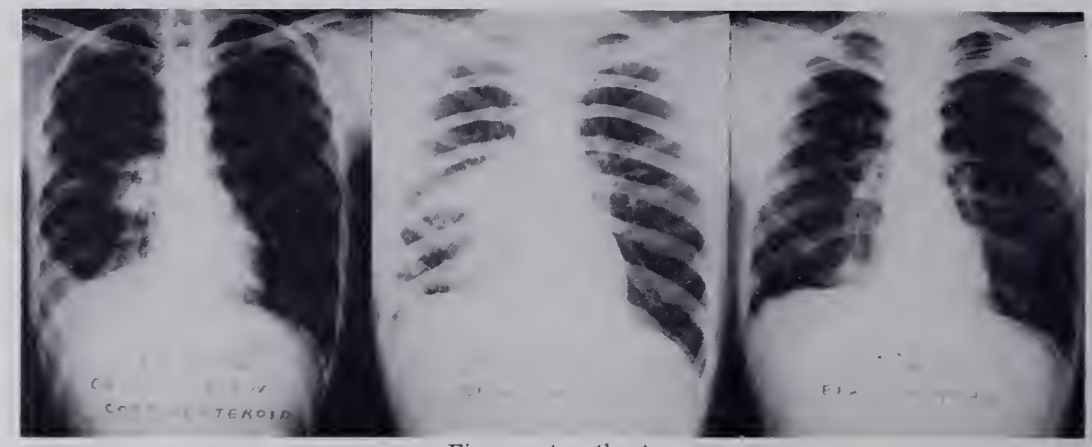
twice a day for twelve days, a total of twenty-one days. On the last two days ACTH was given 10 units twice a day which was reduced to 5 units daily for five days. The cavity closed (Fig. 4c) and the sputum converted on the ninetieth day of hospitalization. He was dismissed as active improved on chemotherapy (INH & PAS) and his disease is inactive at the present.

The total series of acute cases is summarized in Table 1.

TABLE 1
ACUTE WITH ADRENOCORTOIDS

Case	Stage of Disease	Temp. F. on Admission	Duration of Fever after Steroid Rx was begun (Days)	Gain of Weight (Lbs.) in 1 Mo.	Duration (Days) of Positive Sputum	Anti-Tuberculous Drugs	Hospital Days	Duration of Steroid Treatment (Days)	Results
1 WF	MA	100	4	2	48	INH, PAS SM	150	28	Good
2 CM	FA	101.2	4	2	90	INH, PAS SM	400+	15	Fair
3 CF	FA	105	8	3	28	INH, PAS SM	309	30	Fair
4 CF	FA	102	2	1	25	INH, PAS SM	240	28	Fair[1]
5 CF	FA	103	9	2	80	INH, PAS SM	270+	115	Fair
6 CF	FA	104	14	2	93	INH, PAS SM, PZA	300+	12	Fair
7 CM	MA	98.6	0	4	100[2]	INH, PAS	585	28	Good
8 WM	FA	102	1	5	120	INH, PAS	210+	33	Fair
9 CF	FA	101	3	1	100	INH, PAS SM	425	21	Fair
10 CF	FA	102.8	6	6	48	INH, PAS	133+	48	Fair
11 CM	FA	101	4	15	19	INH, PAS	166+	62	Good
12 CM	FA	101	3	23	125+	INH, PAS SM	125+	35	Fair
13 CF	FA	105	21	5½	42	INH, PAS SM	166+	39	Fair Sickle cell anemia)

[1] Right upper & middle lobectomy.
[2] X-ray did not improve and sputum was still positive so prednisone was started on the 76th day.
INH—Isoniazid
PAS—Para-aminosalicylic acid (Sodium or potassium salt)
SM—Streptomycin
VM—Viomycin
PZA—Pyrazinamide
CS—Cycloserine
K—Kanamycin
Fair—resolution of the exudative compound of the lesion on x-ray, with or without partial replacement by fibrous tissue and contraction of productive disease. Symptoms improved or absent. Residual cavities present.
Good—as above, but cavities closed.



Figures 4a, 4b, 4c

The patients with acute disease certainly looked better and felt better under the influence of the adrenocortoids, and the exudative component of the disease by x-ray diminished fairly rapidly. These results warranted a comparison with similar patients who did not receive adrenocorticoids but whose treatment was otherwise the same. They looked sick and felt sick longer than the patients who were given adrenocortoids and the duration of the fever was much longer (see Table 2). However, the fever did not make the patient uncomfortable after the first week, rarely exceeding 100°F. The appetite gradually improved so that after one month their average gain of weight was not dissimilar to the prednisone-treated patients.

The x-ray appearance improved, but

TABLE 2
ACUTE WITHOUT ADRENOCORTOIDS

Case	Stage of Disease	Temp. F. on Start of Anti-TB Treatment	Duration of Fever after Treatment was begun	Gain of Weight (lbs.) in 1 Mo.	Duration (in Days) of Positive Sputum	Anti-Tuberculous Drugs	Hospital Days	Results
1 WF	MA	100	2	1	9	INH, PAS SM	150	Good
2 CF	FA	101.8	27	3½	90	INH, PAS	912+	Fair[1]
3 CF	FA	101	19	5	57	INH, PAS	365+	Fair
4 CF	FA	104	27	3	20	INH, PAS	120+	Fair
5 WM	FA	98	0	9	60	INH, PAS	230	Good
6 CF	FA	102	35	0	42	INH, PAS SM	730	Fair[2]
7 CF	FA	99.4	28	3	11	INH, SM	220	Good
8 WM	FA	102	15	2	43	INH, PAS	348	Good
9 CF	FA	103	28	3	103	INH, PAS SM	438	Fair
10 CM	FA	100	60	8	18	INH, PAS	425+	Fair
11 WM	MA	99.4	4	9	47	INH, PAS	280	Good
12 WM	MA	99.0	1	4	9	INH, PAS	240	Good
13 CF	FA	101.4	17	5	67	INH, PAS SM	445	Good
14 WM	MA	102	20	18	41	INH, PAS SM	348	Good

[1] Right upper lobectomy
[2] Right upper lobectomy

slightly slower in the first month than the patients who were given corticosteroids, but after a few months the x-rays of the untreated (by prednisone) patients could not be distinguished from the treated patients. (Fig. 3a, b, c; Fig. 5a, b, c; Fig. 6a, b, c; Fig. 7a, b, c)

Chronic

This group of patients had a diagnosis of pulmonary tuberculosis in excess of four months prior to steroid treatment or had a history compatible with pulmonary tuberculosis longer than four months prior to admission to this hospital. Studies of



Figures 3a, 3b, 3c



Figures 5a, 5b, 5c



Figures 6a, 6b, 6c



Figures 7a, 7b, 7c

the sensitivity of the causative organism to streptomycin, isoniazid, and PAS were done, and no patient was given adrenocortoids without the protection of two or more effective bacteriostatic drugs except in the case of one patient who was moribund at admission and died on the fifth day.

In the majority of cases the administration of adrenocortoids caused a feeling of well-being and a gain of appetite. In addition, apparently there was a marked gain of strength. In the patient's words they "felt great". However, this apparent improvement was not reflected in the radiograms, sputum conversion, or the eventual outcome. There was no visible diminution of the previously laid down fibrous tissue. On the other hand, no evidence of any harmful effect was seen ascribable to the administration of these drugs.

In the case who was moribund (see above) steroid treatment caused a spectacular improvement in his symptoms. This patient was treated in another hospital with cortoids, INH, and PAS with frequent desertions and re-admissions for about a year. He was admitted to this hospital semi-stuporous, with fine and coarse tremors. His temperature was 101.5°F. He had a productive cough and he appeared cachectic and acutely ill. His liver was enlarged 7 cms. below the costal border, but it was not tender or hard. An x-ray revealed far advanced pulmonary tuberculosis with tuberculous pneumonia. Isoniazid, streptomycin, and PAS were started, but his fever rose to 103°F the next morning, and he was delirious. Cycloserine, 250 mg., twice a day and prednisone 15 gm., four times a day were started. The next day he was rational, his temperature was 98°F, no tremors were seen, and his appetite was normal. This pleasing course continued to the fifth day when his temperature dropped to 95.4°F shortly after midnight, rose to 101.2°F at noon and dropped to 97.6°F in the evening when he died.

The total series of chronic cases is summarized in Table 3.

One white female was treated for endobronchial tuberculosis with streptomycin, isoniazid and PAS which converted her sputum in twenty days. Her wheezing, which was present since admission, continued, so that prednisolone 15 mg., each six hours for four days was added to her regime. On the thirty-sixth day this dosage was decreased to 10 mg., each six hours for three days, and further decreased to 5 mg., each six hours for six weeks. Her wheezing stopped permanently on the eleventh day of adrenocortoid treatment. She was discharged after ninety-eight days of treatment on isoniazid and PAS.

One case was given adrenocorticotropin in the course of the treatment of myelogenous leukemia. Her tuberculous lesions were regressing on antimicrobial treatment at the time of her death.

TABLE 3
CHRONIC

Case	Stage of Disease	Temp. F. on Start of Steroid Rx	Duration of Fever after Steroid Rx was begun	Gain of Weight in 1 Mo. after Steroid Rx was begun	Duration (in Days) of Positive Sputum after Steroid Rx was begun	Anti-Tuberculous Drugs	Hospital Days	Duration of Steroid Rx (Days)	Results
1 WF	FA	99	0	3	No conv.	INH, PAS SM, VM PZA	1850	59	No change in course of illness
2 WM	FA	98.6	0	0	685	INH, PAS SM, VM	1495	50	No change
3 CM	FA	98.4	0	1	234	INH, PAS SM, CS PZA	579	130	No change
4 WF	Min.	98.6	0	2	*	INH, PAS	138	130	No change
5 WM	FA	98.6	0	—1	21	INH, SM	127 (died) †	80	Fair
6 WM	FA	98.6	0	0	‡	INH, PAS SM	556	155	No change
7 WM	FA	99.4	4	2	44	INH, PAS SM	473	28	Fair
8 CF	FA	98.6	0	0	419	INH, PAS SM, PZA	1472	24	No change
9 CM	FA	98.6	0	0	No conv.	INH, PAS SM	352 (died) ‡	99	No change
10 CM	FA	98.6	0	2	No conv.	INH, PAS SM, CS, K	1212 (deserted)	103	Fair
11 CM	FA	98.4	0	0	240	INH, PAS SM	944	16	No change
12 CF	FA	101	2	0	No conv.	SM, PAS	39 (died)	5	No change (died)
13 WM	FA	98.4	0	0	‡	INH, PAS SM	1470	17	No change
14 WM	FA	98.6	0	9	No conv.	INH, PAS SM, VM Terramycin	865 (died)	362	No change

* One positive culture before admission
† His pulmonary disease was improving when he died from portal cirrhosis
‡ Conversion of sputum before steroid Rx
§ Died from pulmonary emphysema

Another patient who had Addison's disease was maintained on cortisone and desoxycorticosterone for thirteen months. The fibrocavitary pulmonary disease did not improve and he died. However, the signs and symptoms of Addison's disease were remarkably diminished by steroid treatment and there was no evident change in the course of the gradual deterioration of his pulmonary status.

Discussion

There was no change in the course of the disease which could be reasonably ascribed to the administration of corticosteroids except a transitory euphoria when the adrenocortoids were added to the treatment of the chronic cases in this series.

Corticosteroids were not given in the presence of a new extension or spread of old disease. Many of these spreads are based on physical or mechanical factors which would not be changed by drug treatment. More to the point, some of these regressions are caused by changes of sensitivity of the bacteria to the antimocrobial agents in use. In such a case corticosteroid treatment would be contraindicated, until the bacteria are proven to be

sensitive to the agents in use or contemplated.

The prompt striking symptomatic improvement in the acute cases warrants more attention. In this series, the acute patients who received prednisone in addition to antituberculous drugs did less well bacteriologically, on the average, than those who were given antituberculous drugs alone. It is obvious that a physician should relieve all symptoms of any disease if he can, and if the treatment is not unduly hazardous. However, there are real dangers inherent in the administration of corticosteroids to a patient whose disease is acute. In the first place, there is no guarantee that the infecting bacilli are not already resistant to one or more of the antituberculous drugs which we are using to treat a specific case, or even that the bacteria are *Mycobacteria tuberculosis*. As you all know, it takes time to culture and identify Mycobacteria, and additional time to do sensitivity studies. If the tubercle bacilli are sensitive to the antituberculous drugs there is further danger in that corticosteroids predispose to fungous infections which could be fatal in a debilitated patient.[21-23]

Also, if there is superimposed unrecognized nontuberculous bacterial infection present while the natural tissue reaction to infection is suppressed by a corticosteroid, the stage is set for a fulminating infection. Prophylactic broad-spectrum antibiotic coverage in corticosteroid treatment will increase the risk, not lessen it, in both cases.[24] Furthermore, the adrenocorticoids will diminish the symptoms of many diseases in addition to their effect on the symptoms of acute pulmonary tuberculosis, and for that reason early recognition of complicating diseases can be impeded. Of course, the well-known side effects of all corticosteroids including negative nitrogen balance, osteoporosis, and the activation of peptic ulcer should be considered. These potentially serious or even fatal complications far overshadow the temporary symptomatic improvement.

On the other hand there is some evidence that the mortality in apparently moribund patients is diminished by the administration of glucocortoids especially if dyspnea or cyanosis is a prominent symptom.[14, 16, 18] This was not apparent in this series, but a possibly life-saving measure such as the administration of corticosteroids should not be neglected for fear of any future side effects, but the course of the steroid treatment should be as short as possible. A live patient with iatrogenic complications is much better off than a dead one.

Other diseases can be safely treated by the corticosteroids in patients with active or inactive tuberculosis under the protection of antimicrobial drugs with the above mentioned precautions relative to bacterial resistance.

In persons who have a disease which should be treated by a glucocortoid, and who are not evidently tuberculous, every reasonable diagnostic measure should be employed, including chest x-rays and tuberculin skin tests, to be certain that a latent infection is not present. The skin tests should be done before the start of the corticosteroid treatment, not as an afterthought, because these steroids abolish or materially reduce the reaction to the tuberculin test in some cases.[25-27] If there is evidence of latent tuberculous infection simultaneous prophylactic antituberculous medication should be added to the steroid regime.

If sarcoidosis is to be treated by corticosteroids, prophylactic isoniazid should be given even if the tuberculin test is negative and the diagnosis of sarcoidosis is not in doubt. A negative tuberculin test in a patient who has sarcoidosis does not rule out an inapparent tuberculous infection because a deficit in the immunologic processes of patients with sarcoidosis is frequently encountered.

Summary

A series of 31 patients was treated by daily administration of corticosteroids combined with effective antituberculous drugs. In no case was the tuberculosis made worse by adrenocortoid administration either in the course of the steroid

treatment or after its discontinuance. No unrecognized disease was aggravated nor was any latent disease activated. In the chronic cases there was no change in the course of the disease which could be reasonably ascribed to the administration of corticosteroids except a transitory euphoria. In the acute cases there was a prompt, striking diminution of symptoms. The improvement in the serial x-rays was slightly better than in similar patients who were not given prednisone, but the duration of the disease was not apparently shortened. On the average, the patients who did not receive adrenocortoids converted their sputum faster than those who were given adrenocortoids. It should be noted that all patients comprising the acute series were given a combination of antituberculous drugs which included isoniazid.

The patients who were treated by ACTH or corticosteroids for a concomitant disease under the protection of antituberculous drugs were not harmed by the administration of these hormones.

The possible dangers, complications, and side effects of corticosteroids and the advisability of adding these drugs to the routine treatment of active tuberculosis are discussed.

References

1. Dis Prez, R. M., and Organick, A.: Corticotropin and Corticosteroid Therapy in Tuberculosis, AMA Arch. Int. Med., 101:1129 (June) 1958.

2. Ruml, D., Haelig, A. W.: Activation of Tuberculosis During Prednisone Therapy, Am. Rev. of Tuberc., 76: 140 (July) 1957.

3. Spain, D. M., Molomut, N.: Effects of Cortisone on the Development of Tuberculous Lesions in Guinea Pigs and on Their Modification by Streptomycin Therapy, Am. Rev. of Tuberc., 62:337 (Oct.) 1950.

4. Michael, Max, Jr., Cummings, Martin M., Bloom, W. L.: Course of Experimental Tuberculosis in Albino Rat as Influenced by Cortisone, Proc. Soc. Exper. Biol. & Med., 75:613 (Nov.) 1950.

5. Hart, P. D'Arcy and Rees, R. J. W.: Enhancing Effect of Cortisone on Tuberculosis in the Mouse, Lancet, 2:391 (Sept. 23) 1950.

6. Report of the Committee on Treatment, The Effect of Cortisone and/or Corticotropin on Tuberculous Infection in Man, Am. Rev. of Tuberc., 66:254 (Aug.) 1952.

7. A statement of the Committee on Therapy, Yeager, R. L., Chairman, Indications for Adjuvant Corticotropin and Corticosterold Therapy in Tuberculosis, Am. Rev. of Tuberc., 76:708 (Oct.) 1957.

8. Segal, M. S., Herschfus, J. A., and Solomon, A.: Broncho Pulmonary Diseases, Paul B. Hoeber, Inc. (c) 1957, Emil A. Naclerio, M.D., Editor. Page 916.

9. Bacos, J. M., Smith, H. T.: The Effect of Corticotropin (ACTH), Dihydro Streptomycin and Corticotropin on Experimental Bovine Tuberculosis in the Rabbit, Am. Rev. of Tuberc., 67:201 (February) 1953.

10. Johnson, J. R., Havey, W. N.: Cortisone, Corticotropin, and Antimicrobial Therapy in Tuberculosis in Animals and Man, Am. Rev. of Tuberc., 70:623 (Oct.) 1954.

11. Paley, S. S., and others: Prednisone in the Treatment of Tuberculous Pleural Effusions, Am. Rev. of Tuberc. & Pulm. Dis., 79:307 (March) 1959.

12. Smith, M. H. D. and Matsaycotes, N.: Treatment of Tuberculous Pleural Effusions with Particular Reference to Adrenal Corticosteroids, Ped., 22:1071 (Dec.) 1959.

13. Cochran, A. B., Hislop, J. A., and Clayson, C.: Cortisone and Chemotherapy in Pulmonary Tuberculosis, Brit. J. Tuberc., 50:269 (July) 1956.

14. De Alemquer, M.: The Treatment of Patients Dying of Pulmonary Tuberculosis with a Combination of Cortisone and Anti-microbials, Acta Tuber. Scandinav, 31:356, abstracted from Bull. Hyg., 31:513 (May) 1956.

15. Sarrouy, C., Gillot, F., Raffi, A. et al.: Results of Treatment of Tuberculous Meningitis since the Utilization of Cortisone, Ped., 12:719, 1957, Abstracts, JAMA, 166:839 (Feb. 15) 1958.

16. De Tavera, M. P., and Others: Cortisone as an Adjunct in the Chemotherapy of Tuberculosis in Children, Bull. Quezon Inst., 4:201 (June) 1957

17. Favez, G., Aguet, F., Sourdate, P., Magnenat, P. and Brinsmade, A.: The Treatment of Certain Forms of Tuberculosis with a Combination of Prednisone (or Hydrocortisone) and Antibiotics, Dis. of Chest, 32:70 (July) 1957.

18. Ford, R. Munro: Adrenocortical Hormone Treatment of Pulmonary Tuberculosis, M. J. Australia, 2:109 (July 27) 1957.

19. Jesiote, M.: Treatment of Pulmonary Tuberculosis with ACTH and Cortisone in Addition to Specific Anti Tuberculosis Therapy, Dis. of Chest, 33:180 (Feb.) 1958.

20. Pilheu, J. A., Jannello, J. A.: Corticosteroids in Human Tuberculosis, Dis. of Chest, 36:509 (Nov.) 1959.

21. Seligmann, E.: Virulence Enhancement of C. Albicans by Antibiotics and Cortisone, Proc. Soc. Exper. Biol. and Med., 83:778 (Aug. - Sept.) 1953.

22. Bratlund, H., and Holten, C.: Moniliasis of Mucous Membranes and Lungs as a Complication of Treatment with Antibiotics, Corticotropin and Cortisone, Danish M. Bull., 1:79 (June) 1954.

23. Mankowski, Z. T., and Littleton, B. J.: Action of Cortisone and ACTH on Experimental Fungus Infections, Antibiotics and Chemotherapy, 4:253 (March) 1954.

24. Souders, C. R.: Adrenocorticotropin and Corticosteroids in Thoracic Diseases, Med. Clin. North America, 44:581 (March) 1960.

25. Derbes, W. J., Dent, J. H., Weaver, N. K., Waughan, D. D.: Response of Tuberculin Skin Test to ACTH and Cortisone in Tuberculous Guinea Pigs, Proc. Soc. Exper. Biol. & Med., 75:423 (Nov) 1950.

26. Harris, S. and Harris, T. N.: Effect of Cortisone on Some Reactions of Hypersensitivity in Laboratory Animals, Proc. Soc. Exper. Biol. & Med., 74:186 (May) 1960.

27. Long J. B. and Favour, C. B: The Ability of ACTH and Cortisone to Alter Delayed Bacterial Hypersensitivity, Bull. Johns Hopkins Hospital, 87:186, 1950.

Clinical Significance of Salicylates In Massive Upper Gastrointestinal Bleeding

• The authors state the equation: Stress plus salicylates equals capillary engorgement plus increased capillary fragility equals hemorrhage.

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A PROFOUND statement was made by Snapper, an internist of wide experience, in commenting on a paper entitled, "Clinical Aspects of Erosive Gastritis," in which he said: "One hears too much about hemorrhage after excessive use of salicylic acid. The popular story is that sodium salicylate causes the prothrombin to disappear and the prothrombin time to increase. Just like Dr. Jankelson, I have never seen a gastric hemorrhage due to salicylate medication, nor did I ever see other manifestations of hemorrhagic tendency due to salicylates." [1]

Opinions in Literature

Snapper's opinion is in agreement with Cushny [2] who stated that aspirin (acetylsalicylic acid) passes through the stomach unchanged and is free from the gastric effect of salicylic acid. However, the experiences of others leaves an entirely different impression.

Sollman [3] wrote that in fact it (aspirin) produces gastric irritation. Winkelstein [4] was more emphatic with the statement that this drug may inflame the stomach. Sajous and Hundley,[5] in commenting on their observations of salicylate administration during the flu epidemic of 1918-19, were most impressed by the number suffering with gastric disturbances and the frequency of gastrointestinal hemorrhage.

This controversy is obviously not new, nor is it settled. It was Douthwaite,[6] in 1938, and Hurst,[7] in 1939, who first focussed attention on the general subject of salicylates and their relationship to gastrointestinal hemorrhage. However, it did not become a major source of interest until 1955, when Muir and Cossar [8] reported one third of 166 patients studied had taken salicylates within six hours of bleeding. Brown and Mitchell [9] in 1956, found 19 of 46 patients, or 41 per cent, had taken salicylates within twenty-four hours of the massive hemorrhage. Lange's study [10] in Norway, left little doubt of this causal relationship, and Alvarez and Summerskill [11] had reason to believe that salicylates could be incriminated in the pathogenesis of massive G. I. bleeding in over 40 per cent of the 102 cases studied.

F. Avery Jones,[12] probably the best known of the British gastroenterologists, concluded that salicylates play a significant part in precipitating gastroduodenal bleeding and may account for 40 per cent of the x-ray negative admissions for hematemesis or melena.

Standing alone, for the moment, is the report of Waterson's investigation,[13] in 1955, which failed to indict aspirin in more than 3 of 170 cases of major gastrointestinal hemorrhage.

Study at Touro Infirmary

This unsettled issue motivated a study at Touro Infirmary. This survey was undertaken with the full knowledge that salicylates are probably the most widely used therapeutic agents. It is said that 4000 million salicylate tablets are consumed annually in Great Britain; the number in the United States must be astro-

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nomical. Their accessibility without a prescription (over the counter) as well as their incorporation in many compounds increases the difficulty of an accurate survey.

However, each patient admitted to Touro Infirmary from July 1, 1959, to January 1, 1960, with gross hemorrhage, either hematemesis or melena, was thoroughly questioned as to his intake of aspirin, bufferin, anacin, APC, empirin, empirin compound, alka seltzer, as well as other types of medication which might contain salicylates.

From Table 1 it can be observed that

TABLE 1
GASTROINTESTINAL HEMORRHAGE

July 1, 1959	Jan. 1, 1960	
45 Cases		
With Salicylates	26	58%
Without Salicylates	19	42%

of the 45 patients studied, twenty-six, or 58 per cent, gave a positive history of salicylate ingestion. Of the 26 cases, twenty-one, or 46 per cent of the total, had taken salicylates within twenty-four hours of the onset of the gastrointestinal hemorrhage. This figure correlates closely with that reported by other investigators.

The reasons for taking the salicylate medication are shown in Table 2.

In regard to sex differential, (Table 3),

TABLE 2
SYMPTOM FOR WHICH SALICYLATES WERE TAKEN

Headaches	13	41%
Abdominal Pain	6	19%
Arthritis	5	16%
Nervousness	3	9%
Bursitis	2	6%
Weakness	1	3%
Sleep	1	3%
Flu	1	3%

TABLE 3
SEX

	Total	Salicylates		No Salicylates	
Male	27	17	63%	10	37%
Female	18	9	50%	9	50%

there were 27 males and 18 females. The salicylate group included 63 per cent of the males and 50 per cent of the females. The ages ranged from 27 to 88 years with a mean of 54.5 years. (Table 4). In the

TABLE 4
AGE

	Total	Salicylates	No Salicylates
Range	27-88 years	31 to 78 years	27 to 88 years
Mean	54.5 years	55 years	54 years

salicylate group, age ranged from 31 to 78 years with a mean of 55 years. Thus, age interestingly revealed no clue.

The x-ray findings, either during or after the hemorrhage, are shown in Table 5.

TABLE 5
GASTROINTESTINAL HEMORRHAGE WITH SALICYLATES

X-ray Findings		
Active Peptic Ulcer	10	37%
Hypertrophic Gastritis	2	8%
Deformed Duodenal Bulb	4	16%
Hiatal Hernia	1	4%
Normal G. I. Series	5	19%
No X-rays Taken	4	16%

Of these possible etiologic factors, active peptic ulcer was present in 37 per cent of the cases; normal G. I. series were recorded in 19 per cent of the cases.

The final diagnoses entertained clinically (Table 6) included peptic ulcer, hem-

TABLE 6
GASTROINTESTINAL HEMORRHAGE WITH SALICYLATES

Final Diagnosis		
Peptic Ulcer	18	69%
Hemorrhagic Gastritis, C. U.	2	8%
Hemorrhage Secondary to Aspirin	2	8%
Cause Undetermined	4	15%

orrhagic gastritis, hemorrhage secondary to aspirin in 2 of the cases, and hemorrhage of undetermined cause in 4 of the cases.

From this data no definite conclusions could be drawn without a more thorough study of the etiological factors of gastroduodenal hemorrhage independent of salicylates.

Selye [14] demonstrated experimentally that capillary engorgement with minute hemorrhages would occur in the stomach of rats when exposed to any type of stress.

Emotional Stress

Wolf and Wolff, in 1943,[15] were the first to report their observations of emotional stress with ulcer and hemorrhage in the stomach of humans.

Breckenridge and his co-workers [16] recently reported the development of acute gastric erosion in 6 previously eupeptic patients exposed to stress of different types, including trauma, infection, cerebral hemorrhage or operation. Every case was fatal, five dying from hemorrhage. This finding is consistent with other reports of hemorrhage following stress.[17]

The mechanism of stress upon ulceration is still not clear. The nonspecific effects of stress produced through the hormonal mechanism of the hypothalamic-pituitary-adrenal gastric axis has been suggested by Selye [14] and popularized by Gray and his co-workers.[18] The hemorrhagic aspects may be considered a part of this hormonal action and yet may well be independent of it. Thus, it is apparent and an accepted fact that the bleeding from the G. I. tract can emanate from the stress factors alone.

Are Salicylates a Contributing Factor?

Why should salicylates be considered as a contributing factor to massive gastrointestinal hemorrhage? The answer lies in the fact that in addition to previously mentioned studies, many other investigators have reported blood loss from G. I. tract following salicylate therapy.

Lange [10] revealed that chronic administration of salicylates regardless of solubility or formula was an important cause of occult bleeding. Stubbe's clinical studies [19] of rheumatoid arthritics and controls on salicylate therapy reported 70 per cent positive stools for occult blood in both. Matsumoto and Grossman,[20] with the use of radioactive CR 51, revealed that blood loss in the feces after aspirin rose in every subject, the usual ranging from 0.2 to 13.5 ml. per day.

What is the story of salicylates with reference to the gastrointestinal tract? Douthwaite and Lintott [6] first described gastroscopic findings in 16 patients swallowing aspirin, reporting varying degrees of hyperemia, vascular engorgement, and submucosal hemorrhages. However, Paul [21] contradicted these findings after gastroscoping 1000 patients. Wolf and Wolff [15] were unable to produce any change on the mucous membrane of the gastrostomy after dusting aspirin on it. The counter argument soon arose that dust did not have the same irritating effects as larger particles, presumably those which one might anticipate on swallowing the pill. Forssell [22] described the particles as being gripped by the muscularis mucosa, apparently leaving cavities. However, Paul's thorough observations [21] implied that these were illusions, not really cavities, but shadows cast by the particles on the mucous membrane.

Muir and Cossar [8] after looking at gastrectomy specimens from patients given insoluble aspirin preoperatively, concluded that salicylates produced an erosive gastritis. However, the routine gastrectomy specimens after administration of aspirin by Alvarez and Summerskill [11] were less conclusive, owing to frequent presence of hemorrhage and acute erosions in control specimens. Our own observations, though few, would tend to agree with the latter.

The theory of allergy has been postulated. We are aware of the hypersensitivity to aspirin, manifest usually by urticaria and angioneurotic edema. This could account for an occasional massive G. I. bleeder but is the exception.[23]

The demonstration of increased gastric acidity by aspirin could explain activation of chronic ulcers but could not account for the occult blood in one case of pernicious anemia described by Alvarez and Summerskill.[11]

It is generally accepted that adrenal corticosteroids may produce peptic ulceration. The stimulation of the adrenal cortex to increase corticosteroid activity by salicylates has been demonstrated and could contribute to the hemorrhagic tendency in known peptic ulcers.[24]

Shapiro [25] suggested that hypoprothrombinemia follows large doses of salicylates in man, and this was evidently responsible

for the bleeding in certain cases.[26] However, other observers failed to confirm either prolonged prothrombin time or alteration in bleeding or clotting time. Likewise, in our small series, all prothrombin determinations that were performed were reported within the normal range.

Frick [27] suggested that salicylates increased capillary fragility and permeability. In his cases he was able to demonstrate this by positive Rumple-Leedes tests in his patients on salicylates, the test returning to normal when the drug was withdrawn. This theory appeals to us as a likely answer and bears further intensive investigation.

The clinical observation of epistaxis [27] and vaginal bleeding [28] after salicylates would infer a systemic effect on blood coagulation. Quick,[29] whose name is synonomous with factors of hemostasis, stated speculatively that first in importance is the integrity of the vessel wall. Even in hyperheparinemia, hemostasis is remarkably effective and breaks down only when the injury to the capillaries is severe.

Salicylate intake is highest in emotionally and physically taxed individuals. In our series, headache, pain, nervousness, etc. contributed to 91 per cent of the reasons for taking salicylates.

The equation can now be simplified to:

Stress plus salicylates equals capillary engorgement plus increased capillary fragility equals hemorrhage.

Conclusions

The purpose of this survey was to familiarize us with a causal relationship of salicylates and G. I. hemorrhage. Although the mechanisms are not definitely known, it is our impression that salicylate administration does influence hemorrhage in terms of increased capillary fragility. Therefore, we feel that salicylate analgesics should not be used in the presence of ulcers, active or inactive. Furthermore, the surgeon should be ever mindful of the possibility that salicylates could be responsible for massive upper G. I. hemorrhage. The failure to find a definite bleeding site should reinforce the probability in those chronic aspirin users. And, following a subtotal gastrectomy in these cases, care should be taken to withhold further salicylates postoperatively.

Summary

1. Stress of different types including physical and emotional trauma and infection is the primary cause for gastric erosions and may be the sole cause for the incidence of hemorrhage in upper G. I. bleeding.

2. It has been suggested that salicylates have an effect on increasing capillary fragility. In the presence of stress, salicylates may be responsible for a reasonable percentage of G. I. hemorrhage, cause undetermined, as well as hemorrhage from activation of known gastrointestinal pathology.

3. A six month review at Touro Infirmary revealed 58 per cent of the cases of massive G. I. bleeders had taken salicylates prior to admission to the hospital.

4. Continuing laboratory investigations are in progress to study the relationship between salicylates and capillary permeability.

References

1. Jankelson, O. M.: Clinical Aspects of Hemorrhagic Gastritis, Am. J. Gastroent., 30:260, 1958.

2. Cushny, A. R.: Pharmacology and Therapeutics, revised by C. W. Edwards and J. A. Green, Lee and Febiger, Phila., 1940.

3. Sollman, T.: A Manuel of Pharmacology and Its Application to Therapeutics and Toxicology, 4th edition, W. B. Saunders, Phila., 1932.

4. Winkelstein, Asher: Diseases of the G. I. Tract, Oxford University Press, 1940.

5. Cyclopedia of Medicine, Vol. 11, F. A. Davis Company, Phila.

6. Douthwaite, A. H., and Lintott, G. A. M.: Gastroscopic Observation of the Effect of Aspirin and Certain Other Substances on the Stomach, Lancet, 2:1222, 1938.

7. Hurst, A. and Lintott, G. A. M.: Aspirin as a Cause of Hematemesis: A Clinical and Gastroscopic Study, Guy's Hosp. Rep., 89:173, 1939.

8. Muir, A. and Cossar, I. A.: Aspirin and Ulcer, Br. Med. J., 2:7, 1955.

9. Brown, R. K. and Mitchell, N.: The Influence of Some of the Salicyl Compounds (and Alcoholic Beverages) on the Natural History of Peptic Ulcer, Gastroenterology, 31:198, 1956.

10. Lange, H. F.: Salicylates and Gastric Hemorrhage: I. Occult Bleeding, II. Manifest Bleeding, Gastroenterology, 33:770, 1957.

11. Alvarez, A. S. and Summerskill, W. H. J.: Gastrointestinal Hemorrhage and Salicylates, Lancet, 2:920, 1958.

12. Jones, F. Avery et al.: Alimentary Bleeding of Obscure Origin, Br. Med. J., 1:1138, 1959.

13. Waterson, A. P.: Aspirin and Gastric Hemorrhage, Br. Med. J., 2:1531, 1955.

14. Selye, H.: The Physiology and Pathology of Exposure to Stress. A Treatise based on the Concepts of the General Adaptation Syndrome and the Diseases of Adaptation, Montreal Acta Inc., 1950.

15. Wolf, S. and Wolff, H. G.: Human Gastric Function, Oxford Univ. Press, London, 1943.

15. Breckenridge, I. M. et al.: Stress Ulcers in the Stomach, Br. Med. J., 2:1362, 1959.

17. Editorial, Stress and Peptic Ulcer, Br. Med. J., Dec. 19, 1959.

18. Gray, S. J. et al.: Chronic Stress and Peptic Ulcer; Effect of Corticotrophin (ACTH) and Cortisone on Gastric Secretion, J.A.M.A., 147:1529, 1951.

19. Stubbe, L. F. L.: Occult Blood in Feces After Administration of Aspirin, Br. Med. J., 2:1062, 1958.

20. Matsumoto, K. K. and Grossman, M. I.: Gastrointestinal Blood Loss During Aspirin Ingestion, Proc. Soc. Exper. Biol. and Med., 102:517, 1959.

21. Paul, W. D.: The Effect of Acetyl-Salicylic Acid (Aspirin) on the Gastric Mucosa, J. Iowa State Med. Society, 33:4. 155, 1943.

22. Forssell, G.: Cited by Lange.

23. Honigsberger, M.: Aspirin and Gastric Hemorrhage, Br. Med. J. 2:57, 1943.

24. Roskam, J., Van Cauwenberge, H., Musters, A.: Cited by Alvarez and Summerskill.

25. Shapiro, S., Redish, M. H., Campbell, H. A.: Cited by Alvarez and Summerskill.

26. Smith, J. M. and MacKinnon, J.: Cited by Alvarez and Summerskill.

27. Frick, P. G.: Hemorrhagic Diathesis With Increased Capillary Fragility caused by Salicylate Therapy, Am. J. Med. Sci., 231:402, 1956.

28. Balette, E.: Cited by Frick.

29. Quick, A. J.: The Hereditary Hemorrhagic Diseases; their Classification and Diagnosis, Br. Med J., 1:1059, 1959.

The Mosquito Hypothetically Considered as an Agent in the Transmission of Yellow Fever Poison

By Dr. Charles Finlay
Translated by Dr. Rudolph Matas

* * * In order to meet the exigencies of this question it was found necessary to ascend as high up in the animal scale as the insect class, and keeping in mind, at the same time, that yellow fever is characterized clinically, and according to most recent labors, histologically, by vascular lesions and physico-chemical alterations of the blood, it seems natural that this agent could be found in that class of insects which, by penetrating into the interior of the blood vessels could suck up the blood together with any infecting particles contained therein, and carry the same from the diseased to the healthy. Finally, on account of various reasons which it would be idle to relate, I asked myself if it was not the mosquito that transmitted the yellow fever poison.

Let us begin by recalling in a few words the geographical distribution of the mosquito. In a general way, it may be stated that the mosquito is found everywhere, excepting in elevated localities. In fact, the dipterous insect which now occupies us, the genus culex, which many believe the special plague of tropical regions, exists, on the contrary, in all latitudes.

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Otitis Media in Children*

• The value of sulfa and antibiotics in otitis media is not to be denied, but this still remains a condition that frequently calls for myringotomy.

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IN this era when the chemotherapeutic and antibiotic agents have so greatly reduced the morbidity of acute otitis media, and have practically eliminated surgical procedures for acute suppurative processes in the temporal bone, one might question the necessity for further discussion on this subject.

Although there is some truth in the statement that the otologist's practice has become to some degree more medical than surgical, otology is still a surgical specialty and those who practice it, whether pediatricians or generalists, must be surgically minded and prepared to make a surgical diagnosis in this field. The trained otologist, with his extensive experience in temporal bone infections, regards with considerable apprehension the frequent purely medical treatment of otitis media. It has been noted that an attitude still exists that all cases of acute otitis media, and one might say, all cases of earache, should be treated with antibiotics, antihistimines, and nasal decongestants; that the tympanic membrane should be allowed to rupture spontaneously if it will, and infrequently be incised. As a result of such treatment, recurrent attacks of otitis media are more frequent today than when they were in the days when this disease was managed by incision and drainage alone; and by repetition of this antibiotic therapy timidly and interruptedly with each acute exacerbation, the pathologic middle ear lesion is gradually converted into a chronic situation with impairment of hearing as well.[1] Functional testing of hearing in such cases has led many otologists to believe that if normal hearing is to be conserved in such ears, the patient would be best served if, in addition to the use of antibiotics, early drainage of the middle ear infection through a carefully placed and performed incision of the tympanic membrane were also instituted.

With a view to re-emphasizing the basic concepts in the management of otitis media, it is therefore believed appropriate to discuss this problem in 1961.

Acute Suppurative Otitis Media

The diagnosis of acute suppurative otitis media presupposes the presence of pus in the middle ear. The classical symptoms and signs, including earache, fever, leucocytosis, impaired hearing, and a red bulging tympanic membrane need not be discussed in detail for they are well known. Known also is the fact that there is considerable variation from this classical picture in many instances, depending upon the rapidity of development of the abscess, the bacteriology of the infection, and the alteration of virulence of the infecting organisms produced by inadequate antibiotic or chemotherapy in the early stages of inflammatory changes in the tympanic mucosa. Such variations may be evidenced by lack of fever and pain. The drum membrane may be yellow and bulging to various degrees. In some instances, particularly pneumococcal infections, local suggestive symptoms may remain minimal up to the time of extension of the process into the cranial cavity to produce sinus thrombosis, meningitis or brain abscess. It should be repeated for emphasis that the diagnosis of acute suppurative otitis media presupposes the presence of pus in the middle ear. To arrive at such a diag-

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nosis demands careful examination of the ears, nose and throat. The external canal must be free from all foreign material to allow for inspection of the entire tympanic membrane. After such inspection, intelligent evaluation of abnormal findings must be made. Having arrived at a diagnosis of acute suppurative otitis media by deciding from clinical examination that there is pus in the middle ear, the treatment required is obvious. Myringotomy is demanded! A surgical diagnosis has been made and there is an uncompromising demand for surgical treatment —now—not tomorrow, or next week and not after a trial of antibiotics. Since there is no necessity to discuss all phases of this subject, the author would like to answer questions that have been asked on frequent occasions by pediatricians, internists, and generalists.

Should Early Myringotomy be Done in Every Case of Otitis Media?

The answer is obviously no. Nonsuppurative acute otitis media should be treated medically. A child complaining of earache and demonstrating a bright red, perhaps retracted, drum membrane which may be the site of a small bleb does not need myringotomy. Nor does he need necessarily sulfa, penicillin or one of the mycins. In the absence of severe infection of the upper air passages, the otitis media may subside spontaneously without suppuration. If there is present also an acute follicular tonsillitis, an acute exudative nasopharyngitis, or an acute suppurative sinusitis, the sulfonamides, penicillin or broad spectrum antibiotics are indicated and may serve to abort the otitis media. Such a patient should be kept under observation, however, and myringotomy accomplished as soon as there is evidence of pus in the middle ear which may be only a matter of hours.

Why Not Let the Tympanic Membrane Rupture by Itself Instead of Incising it?

A statistical study made by Maxwell and Brownell in 1940,[2] and essentially at the threshold of the antibiotic era, of over 1,500 cases of acute suppurative otitis media, demonstrated conclusively the following facts;

1. In the majority of instances (60 per cent) spontaneous perforation occurred after three days of symptoms. Thus, in building up pressure in the middle ear for more than three days, the increased opportunity for spread of infection to the mastoid is obvious. It was shown further that there is no tendency for a child's drum membrane to rupture earlier than an adult's.

2. When spontaneous perforation of the tympanic membrane does occur, the drainage is frequently inadequate. Furthermore, the later the spontaneous perforation, the less adequate the drainage as demonstrated by the observation that in those patients experiencing spontaneous perforation after three days of symptoms, secondary myringotomy was demanded in nearly twice as many instances as in the group whose tympanic membranes ruptured before three days of symptoms.

3. Mastoiditis is less likely to develop in individuals who have the benefit of a myringotomy early in the course of an acute suppurative otitis media. In a group of 558 cases of acute suppurative otitis media proceding to spontaneous recovery, 55 per cent had an early myringotomy. In 727 patients with surgical mastoiditis, only 22 per cent had the benefit of early myringotomy. Nearly half of the latter group had been permitted to proceed to spontaneous perforation of the tympanic membrane.

Dangers of Myringotomy

Are there not some dangers associated with myringotomy due to the likelihood of introducing infection into the middle ear, and of injuring the contents of the middle ear?

There are theoretical dangers in this procedure but they are greatly outweighed by the dangers of leaving pus under pressure in the middle ear cavity.

First, in the absence of an external otitis there is little if any danger of intro-

ducing infection into the middle ear if a sterile myringotomy knife is used. The tympanic membrane does not need to be prepared by using a bactericidal solution.

Second, with reasonable care and gentleness there is practically no danger of damaging the middle ear contents by myringotomy. Individuals retain normal hearing after repeated score and two score myringotomies providing that a necrotizing infection does not destroy portions of the drum membrane or the tympanic mucosa.

Use of Sulfa and Antibiotics

Why not use sulfa or an antibiotic routinely in all cases of acute otitis media, suppurative and nonsuppurative, since experience has shown that most of them will resolve without drainage under this form of treatment?

There are several aspects to this question which should be considered individually.

In the first place, it is generally conceded that such medical therapy is never a substitute for an indicated surgical operation. It has been said that nature may be a good doctor, but she is a very poor surgeon! Many infections in the body can be aborted by properly chosen chemical and biological preparations and thus cured before the indications for surgical drainage develop. After surgical drainage, such medical therapy may be most valuable in decreasing the morbidity and in preventing complications which might prove fatal.

In the second place, not all cases of acute otitis media need such medical therapy. Sulfa and the antibiotics are not innocuous substances, it is known. The undesirable side effects and the deleterious toxic and allergic manifestations are well known. Furthermore, it is also recognized that these agents are far too valuable to waste by indiscriminate use and thus chance a sensitization reaction which may preclude the possibility of using the drug during some future illness when it is urgently needed. Experience in the preantibiotic days demonstrated that 95 to 97 per cent of cases of acute suppurative otitis media resolved spontaneously without mastoid surgery. Certainly less than half of these cases had a stormy or septic course in recovery. Thus it may be estimated that there is a large group of even the suppurative cases that does not need antibiotic therapy.

Finally, conceding that even in the instances when pus is present in the middle ear, the infection may subside and the pus be absorbed, there are two very real dangers in depending on antibiotics and the antihistamines to accomplish a cure unaided by surgical drainage. The first of these is the danger of producing a greatly attenuated smoldering infection which will eventuate in the insidious development of mastoiditis with complications. This is not a theoretical possibility but a reality encountered by otologists today with sufficient frequency to cause them real concern. The second danger is that of permanently impaired hearing produced by mucosal thickening and even scar tissue after the absorption of pus. An undrained abscess in any body cavity will produce such sequelae. In nonsuppurative cases of otitis media aborted by medical therapy, a serous infusion into the middle ear may occur and produce hearing impairment which may go unnoticed for long periods in children not subjected to careful follow-up examinations.

Otitis Media with Effusion

A second but closely allied condition mentioned above, is otitis media with effusion—known also as secretory otitis, catarrhal otitis, glue ears, etc. It is often neglected because of faulty diagnosis and is commonly mistreated. It is a frequent cause of hearing impairment in children, and one which lends itself to remedial therapy. It may be the result of barotrauma, infection, allergy or possibly vasospasm. There is overwhelming evidence that an early suppurative otitis media aborted by antibiotic therapy may result in an effusion of clear amber serum into the middle ear. Without earache, fever, or general reactive symptoms, the child is seemingly cured of his infection. The

adult will complain of a feeling of stuffiness in the ear and hearing impairment, but the young child is not likely to complain of these symptoms. If one ear is involved, the parents may not notice the impaired hearing, but it is likely that there will be some decline in the quality of the child's school work or marked change in television listening habits.

Examination will give evidence of a conductive type of hearing loss. The membrana tympani may appear to be normal on casual inspection; but on more careful study it will be seen to have an amber color due to the serum behind it. Bubbles or a meniscus of fluid may be visible. If the fluid has been present for sometime, the drum may be thickened, retracted and grayish-blue.

If the process is new and acute it should be given an opportunity to subside spontaneously. In children who have the condition in the subacute stage, that is clear fluid that remains in the middle ear for two or three weeks after causative upper respiratory infection has subsided; allergy and/or hypertrophic adenoid tissue in the nasopharynx should be suspected and removed. Adenoidectomy and myringotomy should be done—well done—with particular effort to remove lymphoid tissue from the fossae of Rosenmuller. This invariably effects a cure.

Finally it should be stated that when antibiotics are used in otitis media, the dosage should be adequate; the drugs continued until the infection has subsided completely, and the patient kept under observation. A child is much safer to be deprived of these drugs than he is to have one or two shots of penicillin or a few teaspoons of a mycin and instructed to be brought back if he is still in trouble. It is particularly dangerous to use such therapy timidly and interruptedly. Repeated infections demanding reinstatement of medical regimen mean a continuous focus of infection either in the nasopharynx or in the mastoid.

In conclusion, it should be reiterated that the antibiotics have been of tremendous value in decreasing the morbidity of acute suppurations in the middle ear and nearly eliminating complications due to extension of infection beyond the boundaries of the middle ear cavity. Their place in the physician's armamentarium is definite and their value when properly used has been proven.

They are not substitutes for an indicated surgical operation nor are they substitutes for painstaking clinical examination. They should be selected with care, administered judiciously and treated with respect accorded narcotics and potential poisons.

References

1. Lempert, J.: For the Good of Otology, Trans. Amer. Acad. Ophth. & Otolaryngol. 57:384, 1953.

2. Maxwell, J. H. and Brownell, D. H.: Acute Suppurative Otitis Media: Statistical Study of 1514 Cases of which 896 were Surgical, Ann. Otol., Rhinol. and Laryngol. 49:973, 1940.

Clinical Experience With Rauwolfia-Flumethiazide (Rautrax®) in the Treatment of Arterial Hypertension

• The benefits of the drug are enumerated together with the results in twenty-two patients with arterial hypertension.

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IT has been estimated that 95 per cent of all patients with elevated blood pressure seen in general practice suffer from essential hypertension. Of these, it is further estimated that more than 80 per cent are over 40 years of age.[1]

Because it affects such a sizable proportion of our middle-aged population, the treatment of hypertension presents a continual challenge to the practitioner. Successful treatment of hypertension remains difficult in spite of the wide variety of therapeutic agents available, so that in many patients the disease progresses unfavorably for extended periods of time.

With recent observations that diuretic agents (such as chlorothiazide) not only themselves possess antihypertensive properties, but further, that they exert a distinct potentiating effect on other hypotensive drugs,[2] a promising new avenue of treatment was opened for the patient suffering from arterial hypertension. Original investigations along these lines were made by Hollander and Wilkins [3] and were concerned chiefly with chlorothiazide. However, other chemically related agents were also studied in an effort to find a more potent but less toxic compound which would achieve the same therapeutic end. This was realized in flumethiazide, a compound similar in structure to chlorothiazide, but in which the chlorine atom is replaced by a trifluoromethyl group. Cohen [4] has noted an absence of gouty episodes and skin reactions common to chlorothiazide in patients treated with flumethiazide. He remarks, "Introduction of the trifluoromethyl group into the chlorothiazide molecule may, therefore, be responsible for decreased toxicity without loss of potency . . . " [4] Another virtue of flumethiazide is that it has less effect on potassium excretion than chlorothiazide,[5] thus sparing the patient from electrolyte balance disturbances.

In Rautrax, a recently introduced oral hypotensive-saluretic preparation, flumethiazide has been combined with whole root Rauwolfia serpentina, an established hypotensive agent.[5-7] Rautrax also contains potassium chloride as an added precaution to offset potassium depletion and electrolyte imbalance. Numerous satisfactory reports concerning this combination drug have already appeared in the literature.[8-11] The purpose of this study was to see whether these findings could be duplicated on an unselected series of typical office patients with essential and malignant hypertension of varied duration.

Methods

The Patients.—Twenty-two unselected patients, typical of those seen in private practice, comprise this study, all of whom required treatment for arterial hypertension. Ten patients were males, 12 were females. Six were negroes. With the exception of one individual 25 years old, all patients were between 53 and 78 years of age.

At the outset, each patient received a complete physical examination, which included urinalysis and blood pressure determination. Immediately prior to the beginning of therapy, blood pressure was redetermined to establish control values. Two patients in this study were diagnosed as "malignant hypertension". All others were

diagnosed as "essential hypertension". The pretreatment duration of illness of these patients ranged from several weeks to ten years. Unfortunately, it could not be determined for every individual. In addition, one patient (No. 15) also suffered from diabetes mellitus and was on concomitant insulin therapy throughout this study.

Prior to therapy with Rautrax, 16 patients had been receiving treatment with other hypotensive medication, principally Nitranitol® with or without phenobarbitol, Serpasil® and Unitensin®. Control values for blood pressure were established in each patient immediately previous to beginning of therapy. Within the group, these values ranged from 160 to 230 mm. Hg. systolic and 90 to 110 mm. Hg. diastolic. The minimal and maximal *mean* pressures

$$\frac{\text{(systolic pressure + diastolic pressure)}}{2}$$

of the group before treatment were 125 and 170 mm. Hg. respectively. The average mean blood pressure of the group was 145 mm. Hg.

The Medication.—Rautrax is a combination of hypotensive and diuretic agents, administered orally. Rautrax contains three components: (1) Rauwolfia serpentina whole root, a highly effective and well established medication; (2) flumethiazide, a nonmercurial diuretic agent derived from chlorothiazide with similar diuretic and natriuretic activity but with lessened kaliuretic activity; and (3) potassium chloride, to minimize electrolyte imbalance due to potassium loss following sustained diuresis.

Each tablet of Rautrax contains 50 mg. Rauwolfia serpentina whole root, 400 mg. flumethiazide and 400 mg. potassium chloride.

Treatment.—All patients began treatment with Rautrax on a dosage schedule varying from 1 to 4 tablets daily, depending on individual requirements. The average dose was three tablets daily. The course of treatment varied in length from three to fifty-four weeks, depending on response and toleration of the medication. In addition to the above regimen, patients were placed on a specific low-sodium diet.

Results

The results of treatment in this series of 22 hypertensive patients with Rautrax are summarized in Tables 1 and 2.

Blood pressure was lowered in every patient as a result of therapy with Rautrax. With the exception of one patient (No. 1), the *mean* blood pressure of each patient was reduced at least 10 mm. Hg. from initial control values. A drop in pressure termed "significant" (mean blood pressure drop of at least 20 mm. Hg.) was evident in 12 patients or 55 per cent of cases. The majority of patients were found to return to relatively normotensive values in relation to their age group as a result of treatment with Rautrax.

Toxic effects were seen in only two patients. One patient (No. 5) complained of nausea and nervousness, necessitating discontinuance of therapy. A second patient (No. 21) demonstrated allergic manifestations which included rash accompanied by swelling of the hands and feet. Upon withdrawal of the drug, these symptoms promptly abated. After one week, the patient was put back on Rautrax with no subsequent side effects. In 3 patients (Nos. 6, 12, 14), response to Rautrax was considered inadequate or unsatisfactory and therapy was terminated.

The average *mean* blood pressure of the group after therapy with Rautrax was 125 mm. Hg. This is a significant reduction from the control value of 145 mm. Hg. before therapy.

Discussion

Based on improvement in blood pressure and therapeutic response to the drug, the results achieved with Rautrax in this series of patients may be evaluated as in Table 3.

From the above results, it is evident that Rautrax has a very definite regulatory effect on the elevated blood pressure of hypertensive patients. It is gratifying to note that every patient participating in this study achieved a depression in his

TABLE 1
BLOOD PRESSURES OF 22 HYPERTENSIVE PATIENTS BEFORE AND AFTER THERAPY WITH RAUTRAX

Case	Patient Age of	Sex	Control BP	Mean BP*	BP after Rautrax	Mean BP*	Change in Mean Pressure
1	74	F	160/90	125	150/80	117	8
2	64	F	200/106	153	170/90	130	23
3	70	M	176/100	138	160/96	128	10
4	68	F	170/100	135	160/90	125	10
5	78	M	200/100	150	170/100	135	15
6	68	M	170/90	130	136/80	108	22
7	77	F	190/100	145	150/86	118	27
8	78	F	190/100	145	160/96	128	17
9	59	F	196/100	148	170/100	135	13
10	74	M	200/110	155	170/100	135	20
11	59	F	190/106	148	150/90	120	28
12	25	M	170/100	135	160/90	125	10
13	68	F	230/110	170	150/90	120	50
14	60	M	202/100	151	180/100	140	11
15	64	F	200/110	155	160/90	125	30
16	78	M	200/100	150	170/90	130	20
17	70	F	200/100	150	146/90	118	32
18	78	F	200/100	150	170/100	135	15
19	58	M	170/90	130	148/90	119	11
20	55	M	180/110	145	160/90	125	20
21	53	F	176/110	143	134/90	112	31
22	53	M	170/100	135	140/90	115	20

* Mean pressure = $\frac{\text{(systolic pressure in mm. Hg + diastolic pressure in mm. Hg)}}{2}$

TABLE 2
SUMMARY OF BLOOD PRESSURE RESPONSE IN 22 HYPERTENSIVE PATIENTS TREATED WITH RAUTRAX

Patients	No. of Cases	Average Mean Blood Pressure		Change mm. Hg	Significant Improvement No. of Cases
		Before Rautrax	After Rautrax		
Male	10	142	126	16	5
Female	12	147	124	23	7
Totals for group	22	145	125	20	12

TABLE 3

Response	No. of Cases	Per Cent
Excellent	1	5
Good	15	68
Fair	2	9
Inadequate	4	18
Total	22	100

blood pressure, and that the great majority of these patients tolerated Rautrax well, remaining free from toxic effects. Those sensitivity reactions that were seen were limited to 2 patients. Rautrax was discontinued in both instances, but one of these patients was able to resume therapy after a brief interruption without further reactions.

No electrolyte imbalance was noted in any patient; even the diabetic patient (No. 15) responded well to Rautrax and demonstrated no unfavorable effects.

Two patients with "malignant hypertension" (Nos. 1 and 5) responded less satisfactorily than other patients in the group. Most of the patients with essential hypertension responded beautifully to the drug, the average mean change in pressure for the entire group being 20 mm. Hg. It would therefore seem that Rautrax should be earnestly considered when effective and well-tolerated therapy is required for the ambulatory patient with essential hypertension.

Summary

Twenty-two unselected patients with arterial hypertension of various lengths'

duration were treated with Rautrax, an antihypertensive-saluretic preparation. On a dosage program of 1 to 3 tablets daily, every patient demonstrated a reduction in blood pressure. Average mean blood pressure for the group fell from 145 to 125 as a result of treatment with Rautrax. Two cases of side effects were observed, one of nausea, a second of rash accompanied by swelling of the extremities. Therapy was discontinued in both cases, but the second patient resumed treatment after a week's interruption with no further unpleasant effects. No other toxic effects or instances of electrolyte imbalance were noted. Rautrax provided effective, well-tolerated antihypertensive therapy for the great majority of patients participating in this study.

References

1. Damrau, F.: N. Y. Physician 30:18, 1948.
2. Freis, E. D., Wanko, A., Wilson, I. M., and Parrish, A. E.: J.A.M.A. 166:137, 1958.
3. Hollander, W. and Wilkins, R. W.: Boston M. Quart. 8:69, 1957.
4. Cohen, B. M.: J. Indiana State M. A. 52:1300, 1959.
5. Moyer, J. W.: Hypertension, The First Hahnemann Symposium on Hypertensive Disease, W. B. Saunders Company, Philadelphia, 1959, p. 308.
6. Wilkins, R. W.: Ann. Int. Med. 50:1, 1959.
7. Grimson, K. S.: J.A.M.A. 158:359, 1955.
8. Nesche, G. E.: Calif. Med. 93:29, 1960.
9. Hutchinson, J. C., Lutz, R. B., and Pezzi, S.: Angiology 11:193, 1960.
10. Russel, D. A.: Georgia Gen. Pract. 7:5, 1960.
11. Soffe, A. M.: Monographs on Therapy 4:21, 1959.

1881

According to Mother Shipton, at some unstated period during the newly born year, all earthly objects, pursuits, hopes, and projects, are to be placarded with the startling word "Finis,"—an inscription pleasant to very few except the book maker and play writer. Even some of our contemporaries have become possessed of the mantle and spirit of prophecy, and tell us of the baleful influences which unusual planetary conjunctions are on the point of exercising over the unfortunate little sphere where our lots have been cast. Other seers who seek to forecast the future more accurately by predicating its disclosures upon alleged actual occurrences tell us of those huge melanotic blotches on the sun's disk, which are soon to coalesce and shut out forever the entire face of the god of day. In spite of all these woeful presages, we venture to offer our readers the usual compliments of the season, and wish for each and every one, a happy, happy and prosperous New Year. No doubt, 1881 will afford the same checkered history of all its predecessors: weal to many; woe to others. In the main, we trust our own profession will be found on the sunny-side of the grand posting of accounts at the end of the year, and then be able to repeat once more the memorable expression of Portal: "The medical profession is as one man living always and always learning."

New Orleans M. & S. J., 8:669, (January) 1881.

Importance of Dental Health Service

• This article was prepared at the request of the Commission on the Survey of Dentistry in the United States.

CHARLES C. BASS, M. D.*
New Orleans

THE principal diseases affecting the teeth are caries and periodontoclasia ("periodontal disease"). It is estimated that less than 25 per cent of the loss of teeth in this country results from caries; more than 75 per cent from periodontoclasia.

Caries

The average 10 year old child has between 2 and 3 decayed, missing or filled (DMF) teeth. By 14 or 15 he has several more and by adult age still more. Almost every adult has already sustained more or less caries damage.

People in the more favorable and more fortunate circumstances receive dentist's diagnosis and treatment of their cavities. Many fillings sooner or later break down from time to time and have to be replaced with more extensive and more complicated restorations. At any time infection may reach the pulp and the tooth may be finally lost.

Treatment of caries—filling and repeatedly filling cavities and other restorations —composes a large part of dental practice at the present time. This is the dental service people want and are willing to pay for, and is what the dentist is trained best to do. It tends to retard the destructive disease process and to prevent or to postpone infection of the pulp and final loss of the tooth. Therefore, dental health service for this purpose, if for no other, is of great importance for human welfare.

Periodontoclasia

Periodontoclasia is a universal [1] disease of man, originating (as gingivitis) in childhood and continuously progressing until all the teeth are lost, if the person lives long enough. There is great variation in the rate of advancement of the disease about different teeth in the same mouth and in different individuals. This is influenced largely by the oral hygiene habits and methods of the individual.

Although some teeth are actually lost from this disease before the age of 35 or 40, total loss usually occurs during the age period of 40 to 60, in people who make inadequate, inappropriate or no oral hygiene effort. Under more favorable circumstances some of the teeth (rarely all of them) may be retained into the 70's or 80's or beyond.

If we take 70 years as a convenient figure for life expectancy at the present time it is apparent that the average person will spend his last ten to twenty years almost or entirely edentulous. Usually long before the last few teeth are lost others have already been lost from time to time. This means progressively increasing handicap, disadvantage and impairment of function and the consequences thereof, over a considerable period of years.

Periodontoclasia is treated, all too often by radical procedures and with limited success, mostly by a relatively small number of specialists in the field. Their attention and interest are directed chiefly to the advanced stages of the disease. Under existing circumstances only a small fraction of the total population with the disease now receive the services that are absolutely necessary to prevent and control it.

Relation of Some Systemic Diseases to Periodontoclasia

It is well known that blood cultures taken soon after operative procedures on

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the teeth, such as extractions and periodontal treatment, show bacteremia in a large per cent of instances.[2-3] Recently, use of improved technics has yielded [4] positive cultures after 82 per cent of extractions and after 88 per cent of other periodontal operative procedures. Further refinement of blood culture technics can be expected to yield a still higher proportion of positives.

Heavy force applied to the teeth during mastication of food, or otherwise, especially to teeth involved in the advanced stages of periodontoclasia, can be expected to drive bacteria into the blood stream in the same way as operative procedures do, but, of course, to a lesser extent. Therefore, bacteremia can be expected to occur frequently, almost daily, during many years of uncontrolled advancing periodontoclasia.

Many of the micro-organisms found present in the lesions of advanced dental disease—both caries and periodontoclasia —and those found in blood cultures following dental operations are similar to those found in diseases in other parts of the body, such as endocarditis, myocarditis, pericarditis, pneumonia, osteomyelitis, etc. In most of these the infection can reach the location only through the blood stream. A considerable proportion of cases of bacterial endocarditis are traceable directly to recent previous dental operations.[5-6]

Orthodontic Needs

There are abnormalities or deformities in the dentitions of more than 25 per cent of adults, which could have been corrected or greatly improved by orthodontic treatment. In fact, many of them can still be greatly improved if the required services and skills were available. The unfortunate victim of such deformities is at a disadvantage, at many places in life, as compared with others with the valuable asset of normal good looking teeth and mouths.

Because of the small number of specialists in this field, and circumstances which tend to limit the availability of their services, only a small fraction of those who need help receive it. The rest go through life thus handicapped; their opportunities and their attainments, in some respects at least, thus impaired.

Prevention

Both caries and periodontoclasia are caused by microscopic organisms. The lesions at first are microscopic in extent, they advance microscopically, the tissues involved are composed of microscopic elements and the destructive processes are microchemical. Therefore, the etiological and pathological conditions at the locations where the lesions originate and advance can be known only through microscopic research and study. Effective prevention must be based upon the facts, not just opinions, as to these conditions. Erroneous opinions obscure but they do not change scientific facts.

Based upon accurate information as to the essential local etiology, secured through adequate microscopic research, a method of personal oral hygiene has been designed [7-8] by which, for all practical purposes, both caries and periodontoclasia can be entirely prevented. Not only are new lesions of these diseases prevented but further advancement of existing disease is greatly retarded—sometimes entirely prevented — by this same means. Briefly it consists of a method of effective cleaning of the teeth at the locations where the lesions originate and advance, every night before retiring. This means the occlusal pit and fissure areas and the approximal surfaces around the contact points, for caries; the entrance to, and within, the gingival crevices, for periodontoclasia.

A considerable number of dentists of the highest standing in their respective communities, some located in more than half of the states in the United States, have been taught, more or less adequately, this method of personal oral hygiene and are teaching it to their suitable patients. There are now literally many thousands of people following the method, some for several years, and enjoying far superior results over anything that could occur without it.

This method of personal oral hygiene and the basis for it will have to be taught in all the dental schools in this country. At present, the method is taught in only two of the 47 schools. This means that most dentists graduating now do not know that the principal diseases of the teeth are entirely preventable or how to maintain the highest degree of oral cleanliness and dental health in their own mouths.

Closing Statements

Countless millions of American people, in all walks of life, urgently need dental health service upon which some part of their potential health, happiness, welfare and longevity depends. This service must include instruction and guidance for an effective method (there is only one) of personal oral hygiene. This is absolutely necessary for prevention and control of the principal diseases of the teeth. At the present time, less than one-third of one per cent of the dentists in this country have learned and are prepared to teach this method to their patients.

It is a challenge to dental education to include effective personal oral hygiene in the undergraduate curriculum and to provide the necessary refresher courses for graduates who have not learned it previously.

It is a challenge to conscientious practicing dentists to be prepared to include in their services accurate and correct instruction as to the exact method of personal oral hygiene which is necessary for prevention of further damage from dental disease.

It is a challenge to individuals, agencies, institutions and organizations concerned with promotion of dental health-welfare, to get the facts as to prevention of dental disease for guidance in their activities.

The diseases of the teeth constitute humanity's most prevalent health problem—the most prevalent cause of long continued crippling, disfigurement and impairment of function to which man is subject.

Good dental health service constitutes one of the most important health needs of man.

References

1. Bass, C. C.: Prevalence of periodontoclasia. Published independently. Reprints available from the author.

2. Robinson, L. et al.: Bacteremias of dental origin. I. Oral Surg., Oral Med. and Oral Path. 3:519 and II 3:923, 1950.

3. Krauss, F. W., Casey, Diana and Johnson, Vilma: Classification of nonhemolytic streptococci recovered from bacteremia of dental origin. J. D. Res. 32:613, 1953.

4. Rogosa, M. et al.: Blood sampling and cultural studies in the detection of postoperative bacteremia. J.A.D.A. 60:171, 1960.

5. O'Kell, C. C. and Elliott, S. D.: Bacteremia and oral sepsis, with special reference to aetiology of subacute endocarditis. Lancet 2:869, 1935.

6. Beeson, P. B., Brannon, E. S., and Warren, J. V.: Observations on sites of removal of bacteria from blood in patients with bacterial endocarditis. J. Exp. Med. 81:9, 1945.

7. Bass, C. C.: The necessary personal oral hygiene for prevention of caries and periodontoclasia. New Orleans M. & S. J. 101:52, 1948.

8. Bass, C. C.: An effective method of personal oral hygiene. J. Louisiana State M. Soc. 106:57; 106:100, 1954.

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Editorial

House Of Delegates Action On The Vendor Payment Plan And On The Kerr-Mills Bill

The House of Delegates of the Louisiana State Medical Society, in one of its rare special sessions, took action on March 5, 1961, in regard to the Vendor Payment Plan and the Kerr-Mills Bill, and approved both. This is a matter of considerable importance to the membership as it has a direct bearing on the continuing fight against state medicine and the efforts of the present administration in Washington to put into law the compulsory social security type of provision for the aged. This would in effect be an additional increment of socialized medicine, and would provide a channel for successive changes which would enact the whole socialist program.

The present situation and the events leading up to it may be profitably reviewed here. In recent years, increased benefits for those on the welfare rolls were provided by Congress. Among these benefits were specifications for medical care of the aged and those on general assistance. Provisions for the payment of this medical care were written into the law and the sections covering the payment to physicians stated that under certain circumstances the payment must be made direct to the physician as the vendor of medical service. This became known as the Vendor Payment Plan and put the State as a third party in the patient-physician relationship. The matter of the third party in the patient-physician relationship has been discussed generally by the profession for two generations. The ethics of this arrangement has been the subject of intensive debate. In general, it might be said that decision as to whether a given system of third party payment was ethical dependent upon whether or not it permitted good medicine to be practiced rather than the channels through which payment was made.

Three years ago, the House of Delegates of the Louisiana State Medical Society voted to cooperate with the Department of Welfare, State of Louisiana, in discussing

its then growing medical care program. Two years ago, and again one year ago, the House of Delegates rejected the Vendor Payment Plan as a part of that program, but directed that the Society should continue to cooperate with the Department of Welfare in discussions. A decision was made to accept payment from the Department for doctors serving on eligibility boards in the several parishes and those seeing patients in consultation for the Welfare Department. Under these restrictions, concerning the Vendor Payment Plan, the Department of Welfare did not wish to advance its program further than the necessities of the situation dictated. These necessities pertained to the payment for the care of patients in nursing homes.

This was the status quo when last summer the A. M. A. endorsed and actively supported what is now the Kerr-Mills Bill, eventually passed into law, in September 1960. This action of Congress, while passing a bill considered by the profession to be both desirable and effective, defeated the objectionable Forand type of legislation with its compulsory social security medical care plan for the aged.

The Department of Welfare of the State of Louisiana felt constrained not to ask for State legislative action implementing the Kerr-Mills Bill and its Vendor Payment Plan required in the operation of the provisions of the bill. In the face of rejection of the Vendor Payment Plan by the State Society, the Executive Committee of the State Society took cognizance of the situation. It noted that the operation of the law supported by the A.M.A. was being retarded by previous action of the State Society. On February 25, 1961, the Executive Committee of the State Society passed a motion approving the Vendor Payment Plan, and made a recommendation to the House of Delegates that the previous action by the House be reversed. The Committee also passed a resolution calling a Special Session of the House of Delegates to discuss the recommendation of the Committee. The House of Delegates, on March 5, approved the action of the Executive Committee and went on record as recommending to the Governor and the Legislature that a plan for implementation of the Kerr-Mills Bill be drawn up for consideration at its fiscal session this current year. This action cleared the way for the State Department of Welfare. It facilitated official and legislative action on the part of the State to implement the bill providing medical assistance for the aged.

The provisions of this law, in its desirable features, in contrast to the Forand type of legislation, were discussed in these columns in a recent issue (January 1961). In brief, it is a substantially significant piece of legislation designed to provide proper and complete care to those who really need help. It is worthy of the support of our physicians, and if properly implemented, while receiving the cooperation of the medical profession, it will be an effective argument against dangerous and socialistic legislation of the Forand type advocated by the present national administration.

The House of Delegates is to be congratulated upon its courageous and far seeing action.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.



O. B. OWENS, M. D.
President
1960 - 1961

Dr. O. B. Owens, our President for the past year, has handled the affairs of the Society in a most efficient and capable manner. He has, at all times, had the welfare of the Society uppermost and has conducted himself and the office with the hope that his actions would meet with the approval of its members and would create good public relations throughout the field of Medicine.

Dr. Olive Boyd Owens, was born on September 29, 1901, in Vernon Parish, Louisiana, and was graduated from Hornbeck High School in 1917. His special interests during those days included music and photography. He spent much of his out-of-class time as a driver for the local physician making home calls for many miles around the town. At that time he recognized a dual ambition, to become a Doctor of Medicine, and or a college professor.

Dr. Owens attended Louisiana College in Pineville for the next four years and was graduated with a Bachelor of Arts degree in 1921, majoring in the sciences. While working his way through college, he did practically every type of work on the campus, yet found time to play the Alto horn and later, the trumpet in the college band. His further work in photography was reasonably remunerative.

Upon graduation, Dr. Owens was appointed an Instructor in Biology at the college, spent his next summer in Peabody College for Teachers, and in succeeding summers attended the University of Chicago, where he earned the Master of Science degree in 1927. By that time he had been promoted to Professor of Biology and Director of pre-medical training at Louisiana College. He continued in that capacity until 1943 and finds some of his greatest satisfaction in the success of his former students.

Dr. Owens entered the University of Tennessee College of Medicine at Memphis in 1930 and was graduated a Doctor of Medicine in 1933 with an earned Certificate of Merit for his scholarship. While at the university he became a Phi Chi, and upon his graduation was made an A O A. He served a rotating internship in the Memphis General Hospital during 1933 and 1934. He then returned to his teaching at Louisiana College and conducted a part time practice until 1943. He has been in full time practice since then.

Following his admission to the Rapides Parish Medical Society he became a member of the Louisiana State Medical Society, the Southern Medical Association and the American Medical Association. He is a

Fellow of the International College of Surgeons and a member of the American Society of Abdominal Surgeons.

His interests outside the practice of Medicine in Alexandria are reflected in his service on the Board of Trustees of Louisiana College, the Board of Institutions of Louisiana for four years, and as a member of the Louisiana State Board of Health for the past several years.

As early as 1944, Dr. Owens recognized the oncoming changing social order and prepared resolutions for the House of Delegates, which led to the organization of Louisiana Physicians Service as the Blue Shield Prepayment Plan. He served as President of that organization during the seven years of its operation. He also served, much of that time, as District Commissioner of the National Blue Shield Commission, and was its Secretary during some of these years. Since then, for several years he served as a member of the Committee on Prepayment Insurance of the American Medical Association. He is presently a member of the Committee on Aging of the A.M.A. He has attended the meetings of the American Medical Association quite regularly for many years.

The medical society offices and committee memberships held by Dr. Owens include practically all those of the Rapides Parish Society, including the President, and many different committees of the State Society, Councilor for the 8th District, Vice-Speaker of the House of Delegates, Vice President, and now the office of President.

Dr. Owens is married to the former Miss Thelma Magee of Franklinton, Louisiana. They have one son, Bill, presently a student at L.S.U. He has been a member of the Kiwanis Club, both in Alexandria and in Pineville, and has been for the past few years a member of the Rotary Club of Alexandria. He has served on the Zoning Commission of the City of Pineville since its establishment.

Dr. Owens has served in practically all the stations of all the York Rite Masonic bodies, is also a member of all the Scottish Rite bodies, and the Shrine. He was recently honored with membership in the Red Cross of Constantine.

The hobbies and avocation interests that engage this versatile and energetic doctor still include photography, "do it yourself" projects about his home, hunting and fishing, music, ball room dancing, plant grafting and raising Camellias, Azaleas and Dogwoods. His lovely home and garden in Pineville attest to the fact that he has never lacked appreciation of earth's beauties, or but seldom failed to express it. His favorite expression is frequently heard at the psychological moment — "I feel a verse coming on."

Surely, when he has met the toast of the Gay Philosopher — "May you Live all the days of your Life", his passing will be attributable in part to a "soft heart for his fellowman."

We congratulate Dr. Owens and thank him most sincerely for serving as our President for the past year.

———o———

HOUSE OF DELEGATES HOLDS SPECIAL SESSION

The House of Delegates of the Louisiana State Medical Society held a special meeting in Baton Rouge, March 5, to help pave the way for the speedy implementation of the Kerr-Mills Law in Louisiana. The House of Delegates voted to approve vendor payment so provisions of the Kerr-Mills Law calling for this method of payment could be met. As a result of this action, the Society now approves the system whereby physicians bill the State Welfare Department for services rendered to those eligible under the Welfare Department and the Kerr-Mills law when implemented and, in turn, receive direct payment from the State agency implementing this program.

The House of Delegates also directed the Committee on Public Policy and Legislation to work with the State Hospital Board and the Louisiana Hospital Association to secure legislation to set standards for all private hospitals in the State and to determine their eligibility to participate in the Kerr-Mills Law.

At present, the Committee on Public Policy and Legislation and a special advisory committee are working with State lawmakers on drafting the necessary legislation to implement the Kerr-Mills Law and set hospital standards for the program. It is hoped that the enabling legislation will be passed at the fiscal session of the Legislature which convenes in May.

PRESS AWARD NOMINATIONS DUE

If your hometown newspaper has published stories, features or editorials on health or medical subjects which you feel merit consideration for the Society's annual press award, please send clippings of these entries at once to the Secretary-Treasurer. The awards will be made in conjunction with the Annual Meeting. Both daily and weekly newspapers are eligible.

SPECIAL AMA MEETING ON HEALTH CARE

State medical society representatives from all parts of the U. S. met in Chicago March 18-19 to discuss the Anderson-King Bill (HR 4222) which would include health care of the aged in the Social Security system. The Anderson-King Bill is merely the Forand Bill under another name. At the AMA meeting, plans were also discussed for speeding implementation of the Kerr-Mills Law which would care for medical needs of the aged at the state level. The conference also outlined plans for organizing opposition to the Anderson-King Bill. Representing the Louisiana State Medical Society attending the meeting were Dr. C. J. Brown, President-elect and Chairman of the Congressional Committee; Dr. Maurice E. St. Martin, Chairman of the Committee on Geriatrics; Dr. Benjamin O. Morrison, and Dr. C. Grenes Cole, Secretary-Treasurer.

AMA ANNUAL MEETING NEW YORK JUNE 25-30

The 110th Annual Meeting of the American Medical Association will be held at the Statler-Hilton Hotel in New York June 25-30. It is anticipated that the meeting will be one of the largest and most important in the history of the Association. Plan now to attend this meeting.

ANNUAL MEETING—ROOSEVELT HOTEL NEW ORLEANS—MAY 8-10

Opening Session

The opening session of the Louisiana State Medical Society's 81st Annual Meeting will be held in the University Room of the Roosevelt Hotel on Monday, May 8, at 8 p.m. At the opening meeting, to which the public is invited, 14 members will be honored with 50-year pins.

House of Delegates

The House of Delegates will hold its first session on Monday, May 8 at 9 a.m. in the Gold Room, followed by luncheon in the Blue Room. The House will meet again on Monday at 2 p.m. The final session of the House of Delegates will be held Wednesday, May 10 at 9:30 a.m. in the International Room. Registration of Delegates will begin at 8 a.m. on May 8.

Out-of-State Speakers

Among the out-of-state speakers scheduled to address the scientific sessions are Dr. Francis L. Land, Fort Wayne, Indiana; Dr. James May, Dallas, Texas; Dr. Herbert M. Stauffer, Philadelphia, Pa.; Dr. James Sherwood Taylor, Little Rock, Ark., and Dr. Frederick Zuspan, Augusta, Ga. Scientific sessions will be held all day Tuesday, May 9, and Wednesday, May 10, in the University and Gold Rooms.

Exhibits

Scientific and technical exhibits will be in the Grand Ball Room. Members are urged to visit the exhibits and register with the technical exhibitors. You not only show your appreciation for the contribution these companies make to the meeting but can quickly and conveniently see their latest offerings.

Dinner Dance

The annual dinner dance will be held in the International Room beginning at 8 p.m. Wednesday, May 10. Reservations for the dinner dance should be made when registering. Each member of the Society is entitled to two tickets but additional tickets may be purchased at the registration desk.

Golf Tournament

The golf tournament will be held at the New Orleans Country Club Tuesday, May 9. Those desiring to play their official round the week-end prior to the meeting may do so as a guest of any member of the New Orleans Country Club.

Hotel Reservations

Members desiring assistance with hotel reservations should contact the Secretary-Treasurer's office without delay. Reservations will be processed on a first come, first served basis.

SPECIAL A.M.A. HEALTH CARE SESSION

Approximately five hundred physicians from all fifty states attended a special meeting sponsored by the American Medical Association at the Pick Congress Hotel in Chicago on March 18-19, 1961. Representing Louisiana from the Louisiana State Medical Society were: Dr. C. Grenes Cole, Secretary-Treasurer; Dr. C. J. Brown, President elect, and Dr. Maurice E. St. Martin, Chairman of Committee on Geriatrics; and from the Orleans Parish Medical Society, Dr. Benjamin O. Morrison, Chairman of the Orleans Parish Committee on Geriatrics.

The primary purpose of the meeting was to strongly emphasize the need for arousing physician interest and understanding of the various health care plans for the aged—specifically, the Kerr-Mills Bill which the A.M.A. is solidly supporting, and the Anderson-King Bill introduced recently by the proponents of compulsory health legislation (H. R. 4222—another type of Forand bill). The latter bill is at present in the House Ways and Means Committee and could come before Congress at any time. The imminence of Socialized Medicine under this Kennedy

administration plan was made quite clear by the A.M.A. officials.

They also pointed out that implementation of the Kerr-Mills Bill by the separate states is progressing at a satisfactory pace considering the fact that it has only been a law approximately six months (September 1960), and many of the state legislatures have not convened since that time. It is also unanimously felt that this is a good and satisfactory solution of aged health care and should be given an adequate trial.

One of the most distressing points brought out at the meeting was the fact that so many physicians are not familiar with the Kerr-Mills Bill, This likewise indicates that this large group of physicians are therefore not familiar with the position of the A.M.A. in this all-important fight to save American Medicine from becoming socialized. This lethargy and complacency of the doctors themselves was one of the major problems pointed up at the meeting, and ways and means to overcome this were discussed.

To this end it was strongly urged that a speakers bureau be formed in the various local societies throughout the country—specifically to provide speakers who would be well informed and capable of putting the subject of health care for the aged across in concise and succinct fashion—and that such speakers would go before the local doctors in each state, not only to better inform them of the situation, but also to enlist their interest in it.

By getting as many of the physicians as possible alerted and cooperative, then other steps, with their help, could be taken — notably: 1.) Each physician should write to his local Congressman and Senator and also get his friends and patients to write on our behalf; 2.) Place pamphlets on the subject, which are available free through the A.M.A., in his waiting room and also send them out with his medical bills; 3.) Discuss with and enlist the aid of his local newspaper editors, radio and television reporters; 4.) Encourage speeches before civic groups; 5.) Ask the various Women's Auxiliaries to take an active part in disseminating an honest understanding of the issues involved, etc. If these and other similar steps were taken much could be accomplished.

It was also pointed out that the official news organ of the A.M.A.—THE A.M.A. NEWS—published every two weeks—gives all of the information that any well-informed physician actually needs—if he would only read and thoroughly digest the contents and go one step further—discuss it frequently with his colleagues, friends and patients.

The dire need for clear, honest, and intelligent understanding of the issues was re-emphasized by the spokesman for the A.M.A. Many erroneous statements are made by our opponents. It is therefore mandatory for every physician to learn the facts in order to help keep the record straight.

Just think! American physicians see an estimated two million patients each day—if each physician would only do his small part and get the message to patients and friends alike—what a tremendous avenue of communication and understanding this would be! So the plea is—do your **little bit**—fight for the freedom of American Medicine—this may be your last chance!

Maurice E. St. Martin, M. D.
Chairman
Committee on Geriatrics.

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Jefferson	Third Thursday of every month	
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

A.M.A. TO STAGE BIG "WORLD'S FAIR" OF MEDICINE IN NEW YORK IN JUNE

The American Medical Association's 110th annual meeting, the "world's fair of medicine," will bring an estimated 50,000 persons, including 25,000 physicians, into New York City, June 25-30.

The five-day convention, biggest of its kind in the world, will attract not only doctors, but also their wives and families as well as residents, interns, exhibitors; in fact, people connected with all the allied fields of medicine. Hence, the convention theme: "Teamwork in Medicine."

The 1961 meeting will mark the eighth time that the A.M.A. has met in New York. The last convention there was in 1957 when 23,888 physicians registered.

Technical exhibits, numbering 827 and displaying everything from medical books to diapers, and more than 350 scientific exhibits largely developed, designed, and manned by physicians reporting their research, will take up practically every inch of space on all four floors of New York's big Coliseum.

In the past, A.M.A. conventions opened on Monday, but as convenience to physicians and in anticipation of the heavy attendance, both the registration facilities and the technical and scientific exhibits will be open and staffed until 5 o'clock Sunday afternoon.

Registration hours, Monday through Thursday, will be from 8:30 a.m. to 5:30 p.m., and until 12 noon on Friday, the final day. The Coliseum will be open, however, to physicians only on Tuesday, Wednesday, and Thursday morning.

Dr. Leonard W. Larson, 63-year-old pathologist and clinic executive from Bismarck, N. D., will be inaugurated as president of the A.M.A. at 8:30 p.m., Tuesday, in the Waldorf-Astoria ballroom. Dr. Larson, who will give his inaugural address at that time, succeeds Dr. Vincent Askey, Los Angeles surgeon.

A reception and ball for the incoming president will follow the inaugural ceremony.

Scientific Sessions

More than 2,000 physicians will take part in the A.M.A. scientific program, which is designed to keep doctors abreast of what's new in medicine.

House of Delegates

The House of Delegates, the policymaking body of the A.M.A., will meet at the Statler-Hilton, the headquarters hotel, at 10 o'clock on Monday morning.

The House of Delegates actually is the voice of American medicine. Any proposal or resolution may originate in one or more of the 1,900 county medical societies, then carried by duly-elected representatives to state meetings, and from there to the A.M.A. House of Delegates for final action.

Woman's Auxiliary

Approximately 3,000 members of the Woman's Auxiliary will hold their 38th annual convention in New York City simultaneously with the A.M.A. meeting. Headquarters will be at the Hotel Roosevelt.

Student American Medical Association

The president and vice president of the Student American Medical Association will serve as ex-officio members of the House of Delegates. The new officers will be elected at the 11th annual SAMA meeting in Chicago's Pick-Congress Hotel, May 4-7.

DISABILITY EVALUATION UNDERTAKEN BY TULANE

A research program has been undertaken by Tulane medical school and two other institutions to evaluate present methods for determining eligibility to receive disability benefits under social security. The project is being undertaken at the request of the Bureau of Vocational Rehabilitation of the Department of Health, Education and Welfare. The aim is to find criteria

for assessing rehabilitation potential so that those who can profit from such services may be encouraged to do so. It will also help ascertain what rehabilitation services are needed.

To achieve these objectives a small, randomly selected group of patients applying for disability benefits will undergo an evaluation of their disability by a team composed of a physician, psychologist, medical social worker, vocational counselor and occupational therapist. The patients will be selected from the five parish are of Orleans, St. Bernard, Jefferson, St. Charles and Tangipahoa.

To recommend or undertake treatment is beyond the scope of the project. Dr. Jack Wickstrom, director of the project and professor of orthopedic surgery at Tulane, pointed out that the findings of the evaluation team will be made available to the family physician. The family physician, or the physician named by the patient in his original application, will be contacted should his patient be included in the research project.

Members of the evaluation team are Dr. Wiley H. Jenkins, internist, William O. Smith, psychologist, Miss Ann K. Rice, medical social worker, James C. Landry, vocational counselor, and Mrs. Ruth Metcalfe, occupational therapist. The project's administrative staff includes, in addition to Dr. Wickstrom, Miss Dorothy Risinger, project coordinator and social work supervisor, Donald M. Salzman, research director, and Miss Brent S. Robertson, executive secretary.

DOCTORS AT A.M.A. CONVENTION TO SEE INTERNATIONAL MEDICAL FILM EXHIBITION

A special scientific feature at the 110th annual meeting of the American Medical Association in New York City, June 25-30, will be a series of outstanding medical films from all parts of the world.

This second U. S. International Medical Film Exhibition is being coordinated by the A.M.A. Department of Medical Motion Pictures and Television in cooperation with Johnson and Johnson for showing in Room C of New York's big Coliseum during the convention.

"We are pleased to participate again in this important phase of postgraduate medical education," said Dr. John Henderson, medical director of Johnson and Johnson. "These carefully selected films, covering practically every specialty of medicine, represent a fine medium for the continuing education of the busy practicing physician," he said.

More than 50 medical films will be shown and, in many instances, the film's author will be present to answer questions from the attending physicians. More than 30 of the films will be from foreign countries.

For the first time in the history of medical meetings, the film exhibition will include a number of film forums in which international medical experts will participate as panelists. One such film forum will cover selective coronary cinearteriography. Others will deal with neurological examination of children, and obstetrics and gynecology.

Other films will give a pictorial summary of medical missionary activities in Africa, India, and other parts of the world.

Among the subjects to be covered in the films and the authors will be:

"External Cardiac Massage" by Dr. James Jude and a group of physicians from Johns Hopkins Hospital, Baltimore; "Pediatric Gynecology" by Drs. Rudolf Peter and Karel Vesely of Prague, Czechoslovakia; "Procedure of Choice in Duodenal Ulcer Problems" by Dr. R. Cameron Harrison, Edmonton, Alberta, Canada; "Anterior Fusion in Spinal Tuberculosis" by A. R. Hodgson, Hong Kong, China, and "Life with a Substitute Bladder" by Drs. James W. Merricks and R. K. Gilchrist, Chicago.

"The American Medical Association is happy to present these outstanding films to its members," said Dr. F. J. L. Blasingame, executive vice president of the A.M.A. "The exhibition points the way toward better medical procedure through teaching, thus helping the doctor in his daily practice."

Information about the film exhibit may be obtained from Ralph Creer, Department of Medical Motion Pictures. and Television, American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois.

TULANE PLANS MATAS AWARD PRESENTATION

The eighth presentation of the Rudolph Matas Award in Vascular Surgery will be made on April 20, 1961, to Dr. Clarence Crafoord of Stockholm, Sweden, at Tulane school of medicine. Dr. Crafoord is professor of thoracic surgery at the Karolinska Institutet and director of the thoracic clinic in Karolinska Sjukhuset. The award which was established in 1934 is made periodically to a member of the medical profession who has pioneered in the field of vascular surgery. Dr. Crafoord pioneered in surgical treatment for pulmonary embolism, conducted thorough studies on the use of heparin, performed the first successful surgical correction of coarctation of the aorta in 1944, and invented and used a heart-lung machine for intracardiac surgery. The Matas Award is established under terms of the Violet Hart Fund of Tulane University. The committee of Award consists of Dr. Emile Bloch, chairman, New Orleans, Dr. Isidore Cohn, New Orleans, Dr. Oscar Creech, Jr., New Orleans, and Dr. Rudolph M. Landry, Memphis. The award was last presented in 1958 to Dr. John H. Gibbon, Jr., who developed and

used the first heart-lung machine for intracardiac surgery.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next scheduled examinations (Part II), oral and clinical for all candidates will be conducted at the Edgewater Beach Hotel, Chicago, Illinois, by the entire Board from April 8 through 15, 1961. Formal notice of the exact time of each candidate's examination will be sent him in advance of the examination dates.

Candidates who participated in the Part I Examinations will be notified of their eligibility for Part II Examinations as soon as possible.

All candidates, eligible for Part II Examinations, who have applied for the first time in 1960, will be required to submit a duplicate list of the hospital admissions as contained in their application.

The deadline date for the receipt of New and Reopened Applications for the 1962 examinations is August 1, 1961. Candidates are urged to submit their applications as soon as possible before that time.

MOTION PICTURE ON CONTROL OF RADIATION EXPOSURE NOW AVAILABLE

"Radiation: Physician and Patient", a new 16-millimeter motion picture on the control of radiation exposure in diagnostic radiology, is now available to physicians at the Louisiana State Board of Health film library.

Filmed by the American College of Radiology in cooperation with the U. S. Public Health Service, the 45-minute color motion picture centers around an informal talk on medical radiology by Dr. Richard H. Chamberlain, professor of radiology, University of Pennsylvania School of Medicine and Graduate School of Medicine. Eminent authorities demonstrate radiobiological effects, with clinical applications made by members of the University of Pennsylvania staff in a demonstration with actual patients.

Requests to borrow the film should be made at least 10 days before the date of showing in writing to the state board of health film library, P. O. Box 630, New Orleans 7.

SOUTH CENTRAL ASSOCIATION OF BLOOD BANKS

The Third Annual Meeting of the South Central Association of Blood Banks held at the Jung Hotel in New Orleans, Louisiana, March 3rd and 4th was well attended by blood bankers throughout the six-state area.

An excellent scientific program plus a technical workshop designed for both physicians and medical technologists was presented.

Guest speakers on the program included Dr. John R. Schenken, Director of Laboratories, Nebraska Methodist Hospital, Omaha, Nebraska; Dr. Mark F. Lesses, Director of the Blood & Transfusion Unit of the Beth Israel Hospital, Boston, Massachusetts; Messrs. Robert T. McGee, William Pollock; Miss Marjory Stroup and Miss Margaret Treacy of the Ortho Research Foundation, Raritan, New Jersey.

At the business session on Friday, March 3rd, the following officers and district directors were elected to serve the Association for 1962:

President—Albert L. McQuown, M. D., Baton Rouge, Louisiana

Vice President—Ralph R. Erdman, M. D., Amarillo, Texas

Secretary—L. Ruth Guy, Ph.D., Dallas, Texas (re-elected)

Treasurer—Florence Del Prete, Amarillo, Texas (re-elected)

District Directors:

Norma M. Bender, M.T.(ASCP)BB — Baton Rouge, Louisiana

Harold V. Beighley, M. D.—Albuquerque, New Mexico

Inkermann C. Scott—Tyler, Texas

Fort Worth, Texas was selected as the meeting site for 1962—the date to be announced later.

AMERICAN COLLEGE OF CHEST PHYSICIANS TO HOLD JOINT MEETING WITH AMA IN 1961

The 27th Annual Meeting of the American College of Chest Physicians will be held at the Commodore Hotel, New York City, Thursday, June 22 through Monday, June 26. Scientific sessions will open Saturday, June 24 and will continue through Monday, June 26.

A joint session with the Section on Diseases of the Chest of the American Medical Association will be held at the Coliseum, Monday, June 26. This will be the first joint meeting in the history of the two societies.

The popular Fireside Conferences, also to be a joint session sponsored by both the AMA and the College, will be held at the Commodore Hotel, Monday evening, June 26.

The following physicians from Louisiana will participate in the College program: Maurice S. Tarshis (Ph.D.), Alexandria; Howard A. Buechner, George E. Burch and Alton Ochsner, New Orleans.

REJUVENATING EFFECTS OF PROCAINE REFUTED IN A.M.A. JOURNAL

Rejuvenating powers attributed to procaine, a local anesthetic known by its trade name novacaine, were strongly refuted in the Journal of the American Medical Association.

Since 1956, Prof. Anna Aslan and her associates of the C. I. Parhon Institute of Geriatrics,

Bucharest, Rumania, have published several articles claiming that procaine had a rejuvenating effect on elderly persons. Last August, Professor Aslan spoke on the subject in San Francisco.

Writing in the February 11 A.M.A. Journal, Dr. G. C. Chiu, Eli Lilly and Company, Indianapolis, said "procaine and its components . . . have been extensively studied, and there is no evidence to support the claims of Professor Aslan for a 'rejuvenating' effect of procaine."

Professor Aslan reported in 1960 that more than 20,000 patients had been treated with procaine since 1951, Dr. Chiu said, but unfortunately techniques required for valid conclusions, such as control series or statistical analysis, were not used in conjunction with the treatment.

Her reports and others published in Russia, Czechoslovakia, and East Germany, he said, "are of only testimonial nature."

The treatment, he explained, consists of a series of intramuscular injections of a solution of procaine hydrochloride.

Sensational improvement has been reported in a wide variety of conditions, including senility, loss of memory, deficient hearing and vision, impotence, white hair, hair loss, eczema, heart and circulatory reaction to stress, Parkinson's disease, hardening of the arteries, arthritis, peptic ulcer, asthma, and high blood pressure, he said.

However, Dr. Chiu said:

"From an analysis of the data contained in the published reports on procaine, it is evident that the agent produced no curative effect on the underlying diseases. Its palliative effect was transient, lasting no more than 60 minutes following administration.

In a recent study in this country in which 10 elderly patients with degenerative diseases were treated with a series of procaine injections for up to 15 months, he added, only 2 showed any improvement, and a careful retrospective analysis indicated that procaine was not responsible.

HEART ATTACKS OCCUR MORE OFTEN AMONG LOWER-SALARIED MEN

Heart attacks occur more frequently among lower-salaried male employees than among those in higher brackets, a study of the personnel of a large industrial firm indicated.

A three-year study of first heart attacks among E. I. du Pont de Nemours & Company personnel was reported by Sidney Pell, Ph.D., and C. A. D'Alonzo, M. D., Wilmington, Del., in the February 11 Journal of the American Medical Association.

The company population averaged 89,089 persons ranging in age from 17 through 64. There were 75,301 men and 13,788 women. The majority resided in the Middle-Atlantic and Southeastern states.

Male employes were divided into five groups on an economic basis and level of job responsibility to ascertain the relationship between heart attacks and occupation, if any.

The study showed that the incidence of heart attacks was lowest among the highest salary groups, being 2 per 1,000 persons per year. In the second highest salary group, the rate was 2.4 per 1,000 and the rate rose to 3.8 and 4 per 1,000 in the two lower-salaried groups.

The fifth, or "wage roll," group consisted of skilled, semi-skilled, and unskilled production workers who, on the whole, were more physically active at work than those in the other four classifications. The heart attack rate in this group was 2.9 per 1,000 persons per year.

DENTAL SURGERY NEED NOT HALT ANTICOAGULANT THERAPY

Dental surgery can be performed on persons taking anticoagulant drugs without fear of excessive bleeding, according to an article in the February 11 Journal of the American Medical Association.

Anticoagulants are given patients who have suffered heart attacks, strokes, or other effects of blood clots to prevent recurrences. There have been conflicting reports as to whether dental surgery should be performed while a patient is taking a drug designed to slow the clotting process.

S. J. Behrman, D.D.S., and I. S. Wright, M. D., New York City, reported in the A.M.A. Journal on a study of 20 patients on long-term anticoagulant therapy who underwent 45 surgical procedures at The New York Hospital, Cornell University Medical College.

They said the study indicated that with careful medical management and prescribed surgical techniques, dental surgery may be carried out safely while blood clotting time is being slowed.

"Our experience has resulted in the conclusion that, when taken properly, anticoagulants need not be discontinued for appropriate dental surgery, and that such discontinuance may be more dangerous than proper dental surgical technique under therapeutic anticoagulant levels," they said.

Discontinuance of the drug, they pointed out, could permit a recurrence of a fatal blood clot.

PROCEEDINGS OF THE CONVOCATION ON GREAT ISSUES OF CONSCIENCE IN MODERN MEDICINE VIDEOTAPED FOR TELECASTING

Last fall Dartmouth and the Dartmouth Medical School sponsored a Convocation on the Great Issues of Conscience in Modern Medicine. It

brought together some of the keenest and most articulate people concerned with this area.

The proceedings were videotaped for the National Educational Television and Radio Center for telecasting over their 50-station network. Because of its special interest to the medical profession, the three 90-minute shows will be shown on the following stations in the Louisiana and Texas areas: WYES—New Orleans, during the weeks of April 16-22, 23-29, April 30 - May 6; KUHT—Houston, during the weeks of April 16-22, 23-29, April 30 - May 6.

The NETRC schedule now available cannot list the exact times or days of the telecasts, but local stations will supply these on request.

NATIONAL HOSPITAL WEEK

The hospital and the community have a reciprocal relationship; neither can be really healthy without the other.

This partnership will be emphasized during National Hospital Week, May 7-13, with its theme of "Your Hospital—A Community Partnership."

Without the hospital, many members of the community would not realize their "heritage of health," and without community support, many hospitals would be unable to meet their communities' health needs, according to a new leaflet prepared by the American Hospital Association.

With one of every eight persons expected to enter a hospital this year, hospitals play a major role in the lives of many Americans, the leaflet noted. For hospitals to maintain and to raise the quality of care for these 23 million Americans, they must be supported by their communities.

The hospital's responsibilities are:

—Patient care, its major responsibility. More than a million and a half hospital employees, using the newest techniques, stand ready around-the-clock to provide a multitude of services for the nation's sick and injured.

—Education of health personnel. All physicians and nurses receive part of their training in the hospital, as do many medical record librarians, x-ray technicians, physical therapists and dozens of other paramedical personnel. Without hospital training, these persons would be unable to provide the high quality of service necessary for the best patient care.

—Research. While the early stages of medical research may be carried out in the laboratory, work ultimately must be done in the hospitals. Nearly every medical advance has resulted from some type of investigation in a hospital.

—Preventive medicine. This may range from giving mass inoculations at the time of an epidemic to conducting classes in prenatal and child care or mental hygiene. This might also be called education of the community for better health.

The community's duties involve supporting the hospital, which is more and more coming to be a community health center. Support may be given to a hospital by:

—Volunteering of personal service to the hospital, either as a trustee or an aide.

—Encouraging young people to enter health careers. There is a major shortage of trained personnel in almost every health area.

—Participating in a prepayment program, such as Blue Cross, which helps assure stable financing of hospitals.

—Supporting programs for adequate reimbursement of the hospital by state and local governments for the care of welfare patients. This also helps stabilize the hospital's finances.

—Keeping informed about the hospital's problems, plans and progress.

BOOK REVIEWS

Thoracic Surgery Before the 20th Century; by Lew A. Hochberg, B. S., M. A., M. D., C. M., F. A. C. S., F. C. C. P., and F. A. C. C. Foreword by Edward D. Churchill, M. D. New York, Washington, and Hollywood, Vantage Press, 1960, pp. 858. Price $15.00.

Only a medical historian, with special training in his field, could properly review this remarkable book. To a practising surgeon with a special interest in chest surgery, and to any physician with an interest in history, *Thoracic Surgery Before the 20th Century* is, as Churchill says in his introduction, "a happy release from Busyness." "Busyness" would probably keep most of us from reading its 757 pages of text consecutively, but this reviewer gives fair warning that it is hard to turn the pages without stopping to read.

An amazing amount of chest surgery was done before the twentieth century, when it is a temptation to think that this specialty really began. The book contains a complete chapter on injuries of the chest; almost a hundred pages on empyema thoracis; and chapters on pulmonary suppuration, pulmonary tuberculosis, diaphragmatic hernia, and the sternum and mediastinum. There are also chapters on esophageal surgery and cardiovascular surgery. Not the least interesting chapter in the book is the final one, on nonsurgical

contributions to the advancement of thoracic surgery, including percussion, auscultation, antisepsis, anesthesia, vital capacity, peroral endoscopy, and X-rays. Respect for "our fathers of old" is vastly increased by the realization that all of these advances came in the nineteenth century and that surgery before that time had been done without their aid.

An item of special interest is the contribution of the remarkably named Dr. Samuel S. Purple, on wounds of the heart and their relation to forensic medicine. Perhaps an even greater contribution to the whole field of medicine, as Hochberg points out, was his founding of the library of the New York Academy of Medicine.

The frontispiece illustrates the passage in Genesis II in which God created Eve while Adam lay in deep sleep ("He took one of his ribs, and closed up the place with flesh instead thereof"). The last of the 155 illustrations is Roentgen's first X-ray, of the hand.

The bibliography extends from page 757 to page 841 and at a rough estimate contains well over a thousand references. It was a task of magnitude to collect them and verify them, for many were originally inaccessible.

There is a presumably complete index of proper names, but it is unfortunate that the subject index is "not . . . exhaustive." A reader who sought all the references to a single subject would have a hard time finding them since "The selected subjects are mentioned in their first appearance, or in citations of historic or other special interest, or in etxended treatments." The book is too valuable to have its usefulness reduced by a selective index.

The practice of citing much of the material in the original wording adds to the interest and readability of the book. To this reviewer, no passage in the book was more impressive than the "bold words" in which George Hawthorn, in 1819, spoke out for surgery in lung abscess. In reporting his own successful drainage of such a lesion, he concluded, "Therefore, I think it is our duty, in every case where it is in any wise practicable, to have recourse to the operation." More than one of the present generation of thoracic surgeons can recall having to justify his own first pneumonectomy or some other operation to his superiors.

Dr. Hochberg has under preparation "A Source Book of Thoracic Surgery in the 20th Century," to be ready in 1963. If he achieves another volume as excellent as "Thoracic Surgery Before the 20th Century" he will again put the profession in his debt.

FREDERICK FITZHERBERT BOYCE, M. D.

Women and Fatigue; by Dr. Marion Hilliard, New York, N. Y., Doubleday, 1960, pp. 175, price $2.95.

This book represents a common sense approach to a very familiar problem among women.

The author of this book, of course, had a wide range of experience in dealing with the various ills and complaints of womankind. I am certain that she chose one of the most common complaints of women of all ages to discuss.

After reviewing this book, and likewise being familiar with her work, "A Woman Doctor Looks at Love and Life", I am convinced that this individual, Dr. Marion Hilliard, must have had a great degree of insight into peoples' lives and their problems. All in all, she must have been a person from whom one could have profited much by knowing.

I recommend this book to any physician who is interested in the treatment of women, whether it be from an emotional or a physical standpoint. I likewise recommend it as good, sound, intelligent, helpful reading material for any lay individual, especially if this individual is fortunate enough to have been born to be a woman.

OUITA S. MORGAN, M. D.

An Introduction to Child Psychology; by Stella Chess, New York, New York, Grune & Stratton, 1959, pp. 254, price $5.25.

Ordinarily any new book must justify its publication on the basis of whether it satisfies a need not otherwise satisfied. I do not know whether other simple, concise introductions to child psychiatry exist, but this book justifies itself regardless of the competition.

It is an excellent presentation of the fundamental idea in child psychiatry. It is not a manual for diagnosis or treatment, yet it provides an excellent description of both of these fundamentals.

The book is what I consider "common sense", that is, its contents are very familiar to the person who has some knowledge of the field. This makes it a most valid handbook for the novice. Appropriately, there is little emphasis given to controversy, yet, the author is not arbitrary. She presents different approaches to understanding children in a clear and non-argumentative manner.

This book will be useful for anyone whose occupation requires some understanding of child psychiatry.

DONALD D. LATHROP, M. D.

Review of Medical Microbiology; by Ernest Jawetz, Joseph L. Melnick, and Edward A. Adelberg. Lange Medical Publications, Los Altos, Calif., 1960, pp. 376, 4th ed. Price $5.00.

In the preface to Review of Medical Microbiology the authors state that the book is directed primarily at the medical student, house officer, and practicing physician. There is no doubt it is popular with the first group, who like its outline form and the condensed coverage: 376 pages as against 900 or 1000 in other textbooks of medical microbiology.

The 1960 edition is the fourth since 1954, the book, like other Lange publications, being scheduled for revision every two years. It is 16 pages longer than the third edition; some sections have been rewritten, new material has been added in certain others. In chapter three, Bacterial Metabolism, there is a new section on biosynthesis. In the chapter on Bacterial Variation, two short sections on selection and adaptation have been eliminated in favor of greater coverage of the important subjects of mutation and transmission of genetic material. Allergy and Hypersensitivity have been taken out of the chapter on host-parasite relations and given the status of a separate chapter, as well as a rewriting. The chapter on General Properties of Viruses has been rearranged and partly rewritten with coverage increased by six pages. A few of the pictures in the book have been replaced with more recent and better ones.

There are some specific errors, but more of the inaccuracies are the result of enforced brevity—the necessity of making a broad statement without any qualifications; for example, on p. 169, the statement that P.P.D. can be obtained by chemical fractionation of O.T. is generally true but not technically correct, since O.T. contains 50 per cent glycerine. There are very few typographical errors. The book is well written and very readable despite the condensation, and serves its purpose very well.

CORNELIA ANN EDDY, Ph. D.

Pharmacology — Nature, Action and Use of Drugs; by Harry Beckman, 2d. ed., W. B. Saunders, 1961, pp. 805. Price $15.50.

This text falls in the limbo between the very large, exceedingly useful *reference* texts and those smaller books designed to be *read* thoroughly by the medical student during the three or four months spent studying medical pharmacology. It has many features which would commend it to a segment of the medical community. I would not, however, include the undergraduate medical student in this segment. This book is written in an enthusiastic, literate style making pharmacology vastly more engaging than most other texts do. This effect is partially attained by emphasizing the "human" side of pharmacology, i.e. clinical observations and data, often at the expense of basic pharmacology. To illustrate this: Right at the start, the basic terminology of pharmacology receives only summary treatment; the introduction to the autonomic nervous system is accomplished in two pages and two charts; the fascinating pharmacology of the drug, bretylium is given only fleeting mention while the text pays great attention to its side effects; much more space is allowed some relatively minor clinical findings with chlorpromazine than is spent on its metabolism, which, incidentally, is not covered adequately. These examples, which are typical and not isolated, are given to indicate the tone and character of this text.

This book is quite up-to-date in its information and seems accurate in detail. Drugs are indexed very carefully according to both trade and generic names.

In the light of the above comments, I would amend the preface to read, "This is a textbook for interested practitioners, not undergraduate medical students."

PAUL S. GUTH

Progress in the Treatment of Fractures and Dislocations 1950-1960; by Thomas B. Quigley, M. D. and Henry Banks, M. D., W. B. Saunders Company, 1960, pp. 102. Price $2.50.

This interesting little book states in its preface that it presents the authors' views regarding the application of studies published during the past decade to the conduct of an active service in a teaching hospital. It is believed that the book does this in an extremely concise manner. The book consists of 102 pages, including the bibliography of 426 references.

This book should be extremely interesting reading for those concerned with the teaching of orthopedic surgery, as well as practicing orthopedists and industrial surgeons and others with a broad background in the field of fractures. It is also suitable for orthopedic residents. In view of its admirable conciseness and brevity it requires considerable background to understand and definitely is not a student's text or an introduction to fractures. Since there is much divergence of opinion concerning many of the matters discussed, any reader will find some parts of the book with which he is not in complete agreement; this, however, in no way detracts from this fine, carefully done, review.

EDWARD T. HASLAM

PUBLICATIONS RECEIVED

Little, Brown & Co., Boston: Recent Advances in Tropical Medicine, by Sir Neil H. Fairley, A. W. Woodruff, and J. H. Walters (3rd edit.).

The C. V. Mosby Co., St. Louis: A Synopsis of Contemporary Psychiatry, by George A. Ulett, M. D., and D. Wells Goodrich, M. D. (2nd edit.); Atlas of Obstetric Technic (DeLuxe Edition), by J. Robert Willson, M. D.; Key and Conwell's Management of Fractures, Dislocations, and Sprains, by H. Earle Conwell, M. D., and Fred C. Reynolds, M . D. (7th edit.).

W. B. Saunders Co., Phila.: Current Therapy —1961, edited by Howard F. Conn, M. D.; Cardiovascular Dynamics, by Robert F. Rushmer, M. D. (2nd edit.).

Vantage Press, N. Y.: Information, Please! For Women Only, incorporating The Dunhill Chart, by Alfred Dreyfus II.



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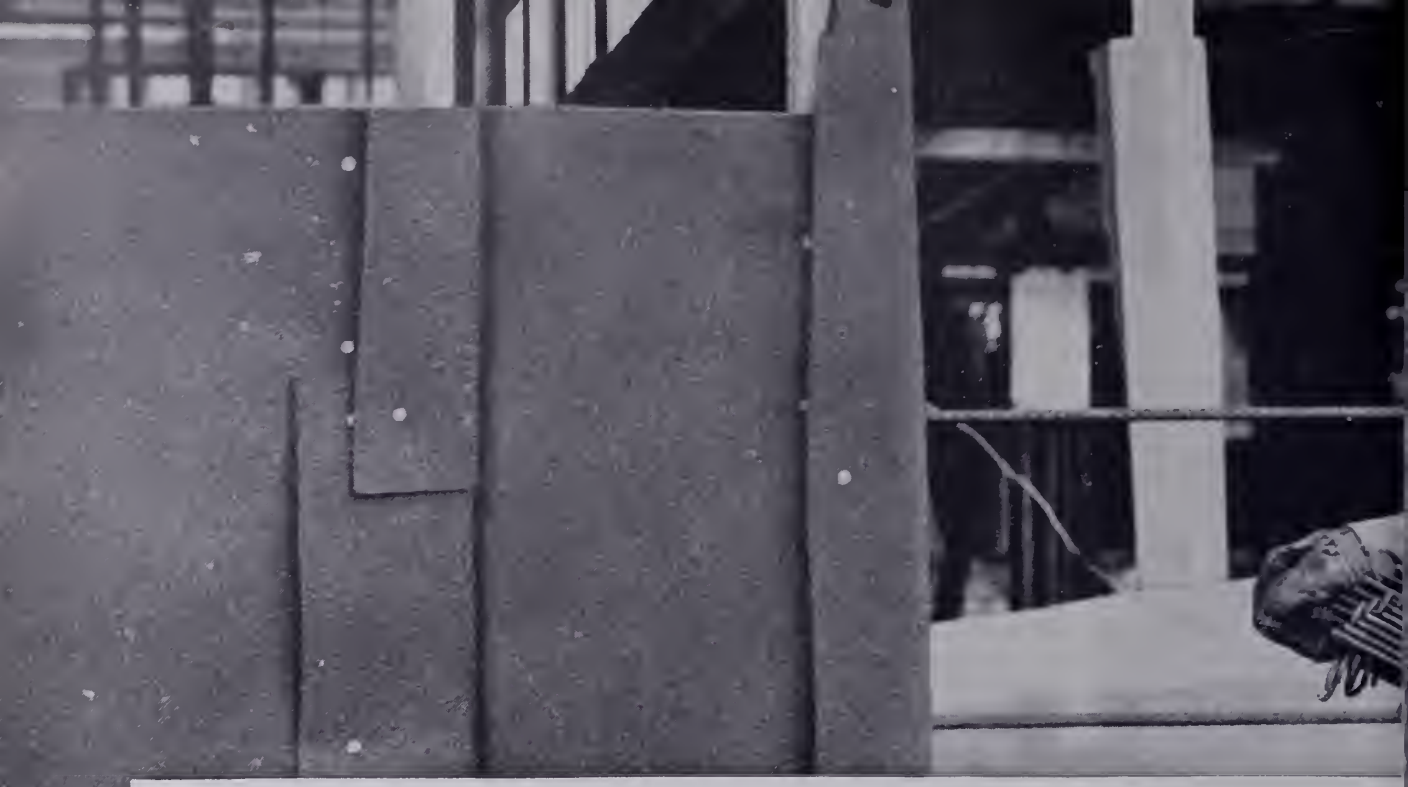
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1. Krantz, J. C., Jr., and Carr, C. J.: The Pharmacologic Principles of Medical Practice, Baltimore, The Williams & Wilkins Company, 1958, p. 843.

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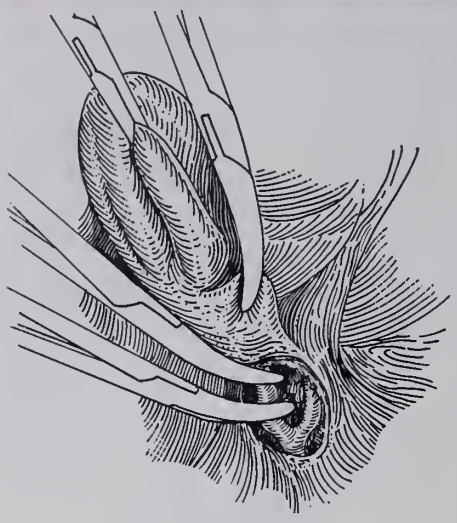


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Source: Farris, J. M., and Smith, G. K.: M. Clin. North America *43*:1133 (July) 1959.

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1. Meyers. G. B.: Ind. Med. & Surg. 26:3, 1957. 2. Murray, R. J.: N. Y. St. J. Med. 53:1867, 1953.

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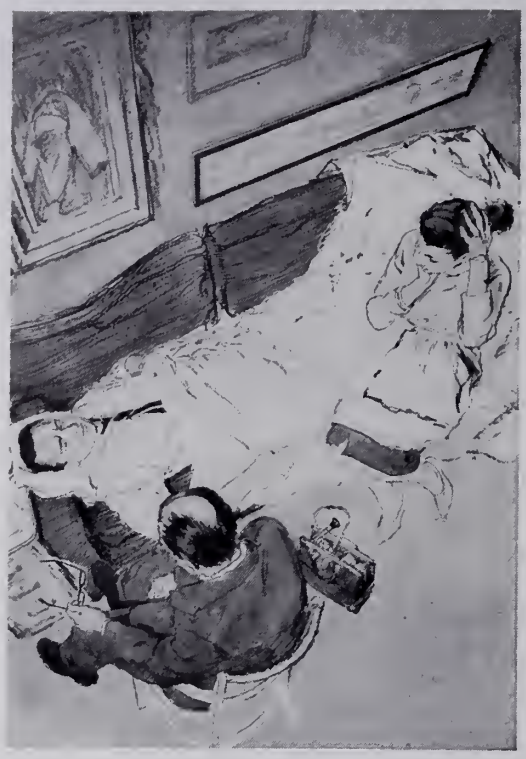
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1. Bagnall, A. W.: Antimalarial compounds in rheumatoid disease, *Canad. M.A J.* 82:1167, June 4, 1960.

2. Cornbleet, Theodore: Discoid lupus erythematosus treated with Plaquenil, *A.M.A. Arch. Dermat.* 73:572, June, 1956.

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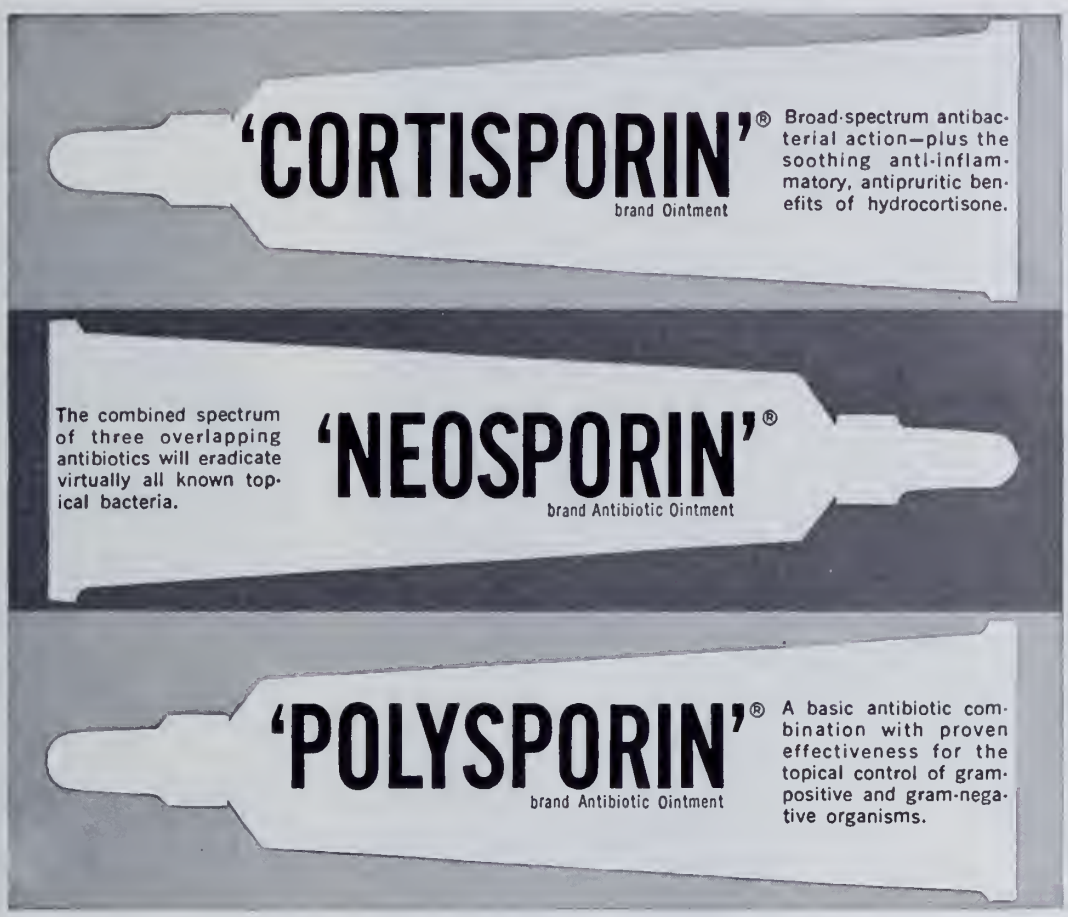
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*Adams, L. D.: The Commonsense Book of Wine, New York, David McKay Company, Inc., 1958, pp. 162-163.

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1. Youmans, J. B.. Am. J. Med. 25:659 (Nov.) 1958

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arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]

3. Fernandez-Herlihy, L. Lahey Clinic Bull. 11:12 (July-Sept.) 1958

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.. Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.. Therapeutic Nutrition. National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57

degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser, W. and Fong, T. C. C. in Stieglitz, E. J. Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G. A.. Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]

8. Duncan, G. G. Diseases of Metabolism. 4th edition. W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

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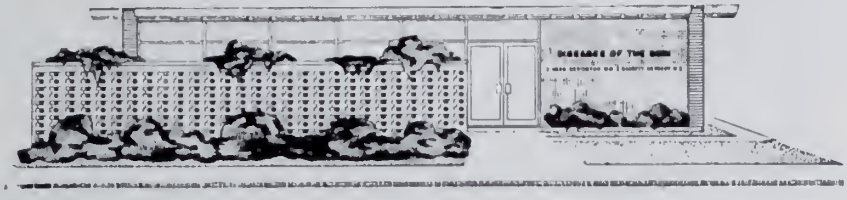
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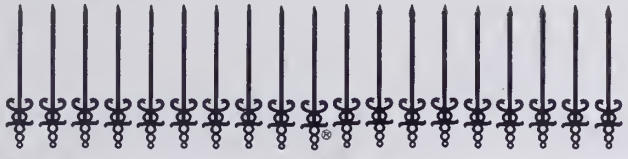
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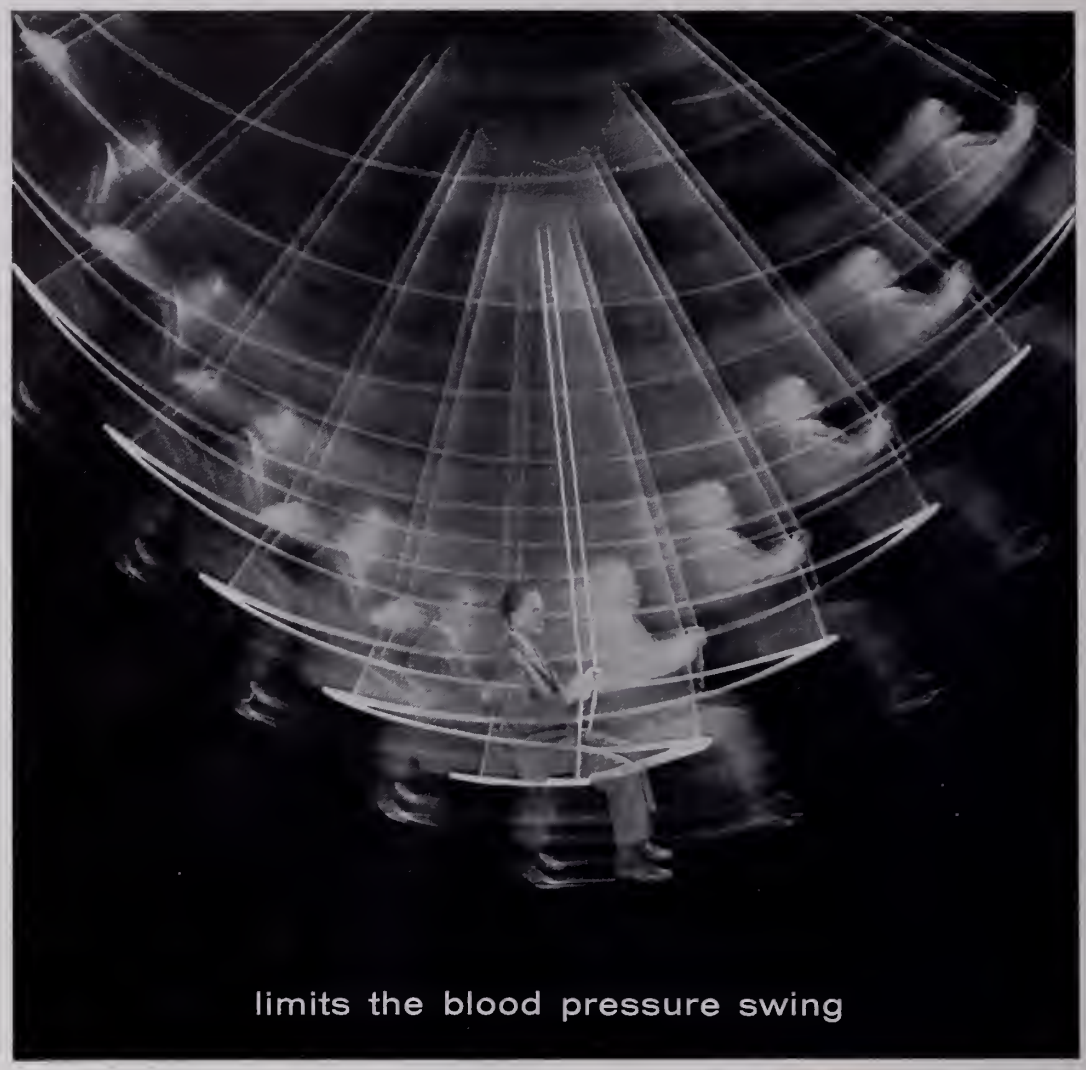
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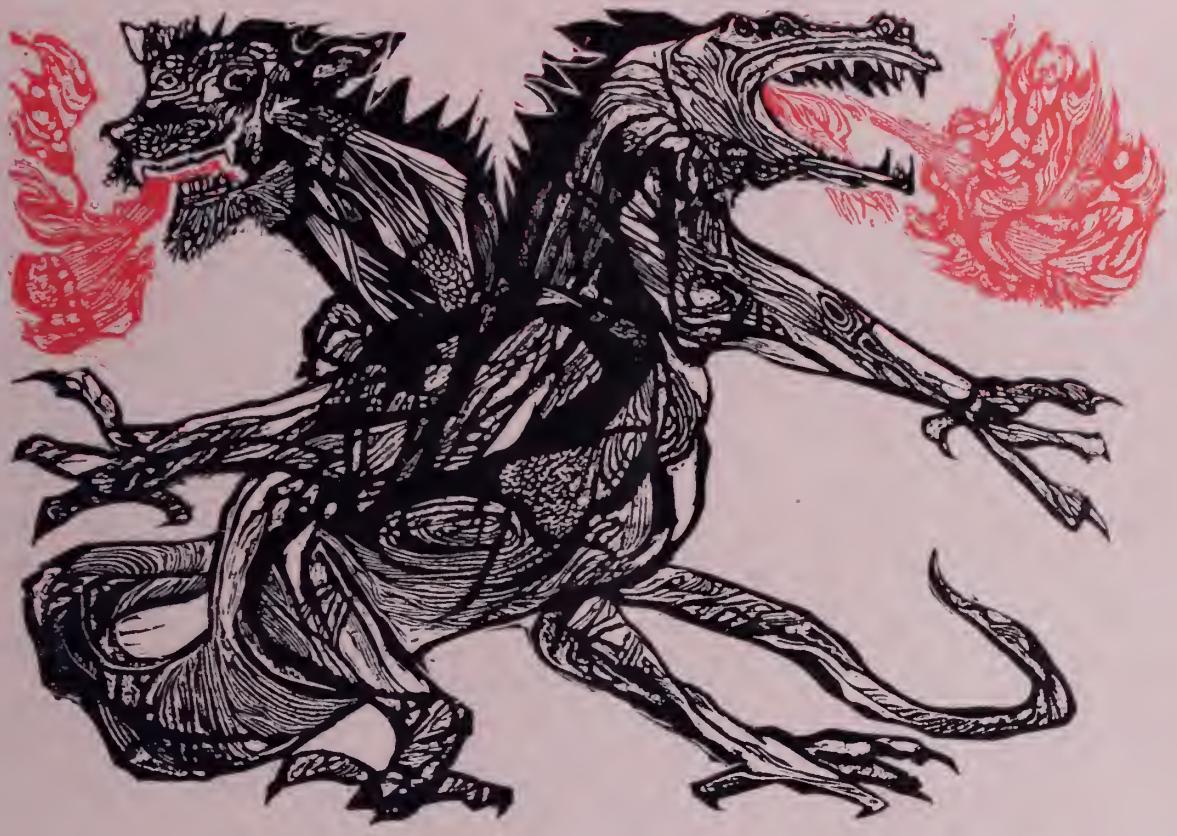
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References:

1. McGavack, T. H.; Kao, K. Y. T.; Leake, D. A.; Bauer, H. G., and Berger, H. E.: *Am. J. M. Sc.* 236:720 (Dec.) 1958.
2. McGavack, T. H.: *Nebraska M. J.* 44:377 (Aug.) 1959.
3. Friedlaender, S., and Friedlaender, A. S.: *Antibiotic Med. & Clin. Ther.* 5:315 (May) 1958.
4. Sherwood, H., and Cooke, R. A.: *J. Allergy* 28:97 (March) 1957.

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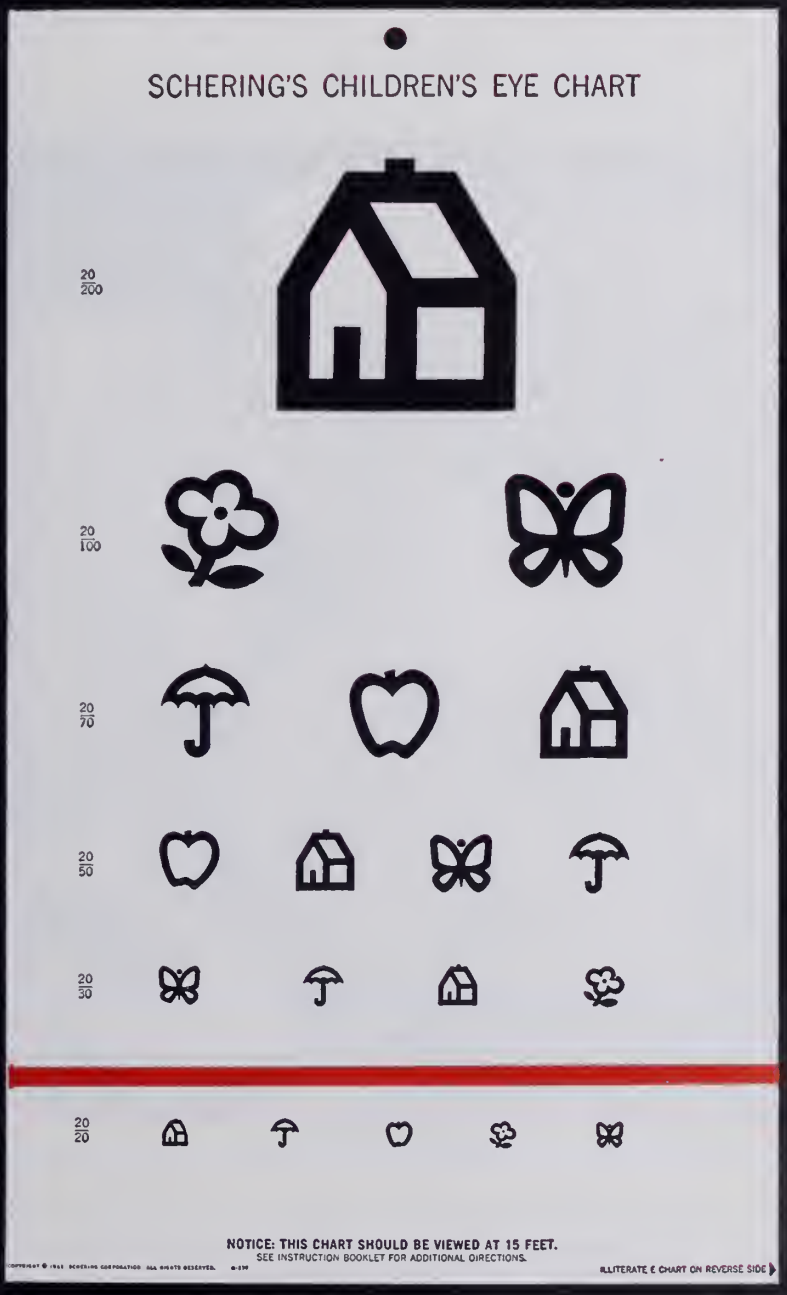
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Kidney Transplantation in Identical Twins*

• A successful human homorenaltransplantation between male identical twins is reported. A modification in technique of ureteroneocystostomy is reported.

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KIDNEY transplantation on pigs and dogs began in 1902.[1-3] The early failures were explained by faulty technique, thrombosis, infection or intercurrent disease. Biologic incompatibilities, resulting in a rejection of foreign tissue by the host, now recognized as an antigen-antibody reaction, were not understood.

Renal homotransplantation in animals has been unsuccessful. In humans the success has been temporary.[4] Renal autotransplantation with the iliac and renal vessels united and the ureter implanted in the bladder has been found to function indefinitely.[5] In bovine dizygotic twins, which have common chorions permitting interchange of blood during embryonic life, skin grafting [6] and renal transplants [7] have been successful. Since skin grafting between identical (monozygotic) twins has likewise been successful [8] it becomes apparent that success in grafts and transplants requires immunological and genetic similarity.

In 1956, Murray, Merrill and Harrison [9] reported the first successful human renal homotransplant on 24 year old identical twins. The recipient was well three and a half years later. Since then they [10a] have reported 7 additional cases while Hume and Schilling [10b] have reported 1. Of Murray's 8 cases 1 was a technical failure and 2 have died from the kidney disease of the host. Hume's case has been successful to date. In an effort to increase the number of compatible donors, the antigenic properties of the donor, the graft and the recipient have been altered but no long-standing success has been reported.

The following case of renal transplantation in identical twins is reported because it is the tenth on record [11] and the technique employed is somewhat different from those reported by others.[10]

---

* Presented at the Eightieth Annual Meeting of the Louisiana State Medical Society, May 3, 1960, in Baton Rouge.

From the Department of Surgery, Tulane University School of Medicine and Surgical and Urological Services, Charity Hospital, New Orleans, Louisiana.

Case Report

A 36 year old man was admitted to Charity Hospital, New Orleans, Louisiana, in a state of uremia on October 5, 1959. There was a history of bouts of pyuria since 2 years of age, and at 14 years, a urologic examination revealed a large right hydronephrosis with a dilated ureter and a large ureteral orifice. There was albumin in the urine. The left kidney was normal. At age 16 years there was evidence of progressive damage to the right kidney and at age 17 years an atrophic, functionless, pyelonephritic right kidney was removed. The blood urea nitrogen at the time was 18 mg./% and the phenolsulfonphthalein excretion was 30 and 45 per cent respectively in two hours. One year later there was still a heavy trace of albumin in the urine. At age 22 years the blood urea nitrogen had risen to 58 mg./% and an intravenous pyelogram showed delayed excretion and incomplete filling of the left kidney pelvis. In spite of restricted activity and a low salt diet, there was progressive physical weakness.

For two months prior to the present admission there had been increasing weakness, nervousness, loss of appetite and weight. Since the patient was one of identical twins, his physician, Dr. Saul Landry, Jr. of Houma, Louisiana, suggested the possibility of a renal transplant and referred him for evaluation. Evaluation of the donor revealed no renal pathology. An intravenous urogram was normal. On August 29, 1959, reciprocal skin grafts were performed to determine compatibility between the twins and the survival of these grafts was accepted as evidence of antigenic similarity.

The patient's condition rapidly deteriorated and he was readmitted to the hospital with advanced uremia.

On physical examination the patient was pale, lethargic and edematous. Muscle twitching and scratching of the skin were evident. The blood pressure was 188/100 mm. Hg.

The urine was acid with a specific gravity of 1.013; albumin 3 plus; sugar 3 plus; and granular casts. Red and white blood cells were noted on microscopic examination. Urine culture was negative. The phenolsulfonphthalein excretion was zero in 60 minutes and the Fishberg was 1.006. The blood urea nitrogen was 220 mg./%, creatinine 20 mg./%, serum Na. 133 meq/1, potassium 5.2 meq/1, chloride 99 meq/1, carbon dioxide content 9 meq/1, serum phosphate 15 mg./%, calcium 4.3 meq/1, and packed cell volume 12%. Hematologic studies revealed findings typical of advanced chronic uremia.

X-ray of the chest was negative. On the fourth hospital day he was treated by external dialysis with an artificial kidney for six hours with good clinical response. Following dialysis the serum sodium was 134 meq/1, potassium 3.0 meq/1 and carbon dioxide 21.9 meq/1.

On October 16, 1959, in adjacent operating rooms under general endotracheal anesthesia, a left nephrectomy was started on the donor (J.G.M.) simultaneously with preparation of the transplant site in the recipient (O.C.). The kidney of the donor was removed through a thoracoabdominal approach by resecting the eleventh rib. This exposure facilitated dissection of the renal pedicle and permitted the ureter to be sectioned in its lower third portion. The retroperitoneal area of the recipient was exposed through an incision in the lower right quadrant, just above and extending to the midline a finger's breadth above the pubic arch and parallel to the inguinal ligament. The kidney was transferred in a basin of heparinized, cool saline and placed in the right iliac fossa where an end-to-end anastomosis between the renal and hypogastric arteries and an end-to-side anastomosis between the renal and external iliac veins were performed (O.C.).

Before arterial anastomosis was performed it was necessary to remove an atherosclerotic plaque from the hypogastric artery. The arterial and venous anastomosis were satisfactory and the kidney become turgid and pink when the arterial clamp was removed. There was a delay of about ten minutes before urine was excreted but it began to then flow in copious amounts. At this point the bladder was opened (J.C.M.) on its anterior surface and the ureter brought through the lower right dependent part of the bladder and passed through an oblique submucosal tunnel and then anastomosed to the edges of the mucosa of the bladder. The ureter was severed 4mm. beyond its attachment to the bladder mucosa. After placing a mushroom catheter through a stab wound in its superior surface, the bladder was closed. The wound was then closed anatomically.

The operation started at 8:10 A.M. and ended at 1:20 P.M. The donor kidney was removed at 10:30 A.M., the arterial anastomosis completed at 11:00 A.M. and the venous anastomosis at 11:15 A.M. Total time of ischemia of the kidney was forty-five minutes.

The donor was discharged ten days following operation with no alteration of blood chemistry, blood pressure or urine.

After operation the improvement of the recipient was marked. The urine output was 5,680 ml. in the first twenty hours. With onset of kidney function there was immediate improvement in the blood chemistries and a reduction of the blood pressure. There was, however, a continued loss of sodium.

Ten days after readmission on November 17, a left nephrectomy was performed. The kidney weighed 49 grams and pathologically showed

severe chronic pyelonephritis. Seven days later an intravenous urogram and a radioactive renogram [12] revealed the transplanted kidney to be functioning normally with no evidence of obstruction. Microscopic examination of the urine at this time showed rods and cocci. This infection has since responded to Furadantin. The blood urea has returned to normal and the blood pressure is 114/90.

Delayed cystogram revealed no reflux up the ureter and at cystoscopy the ureteral orifice of the transplant was elliptical and similar to the other orifices.

Discussion

The prospective donors are limited; one of every three sets of twins are identical and twinning occurs in every ninety pregnancies.

The donor must submit to reciprocal skin grafts to be identified as an identical twin. He must be healthy with kidneys free from infection and possessing normal function. The recipient should have irreparably damaged kidneys, a lower urinary tract free from obstruction, a controllable infection, if any, and quiescent renal disease.[10a] In advanced uremia the recipient may have to be dialyzed to be capable of receiving a transplant.

The iliac fossa is an ideal site for transplantation for it permits implantation of the ureter into the bladder while retaining an environment comparable to that of the original kidney area. Using the donor's opposite kidney permits a correct relationship between the blood vessels and pelvis.

The handicap of a calcified plaque in the artery of the recipient was overcome by endarterectomy. The modified technique employed in ureteral transplantation was successful.

Following transplantation the improvement of the recipient was marked. The urinary output was 5,680 ml in the first 20 hours. Within a week there was a marked reduction in the blood urea nitrogen and blood pressure, and the patient became alert, cheery and optimistic. The blood chemistries, blood pressure and body weight decreased but did not reach normal levels until the diseased kidney of the recipient was removed. Following surgery the excretion of sodium in the urine became elevated and remained so for several weeks. This may have been the result of renal denervation, ischemia or a combination of causes.

Of added significance is the demonstration that successful transplants can be done wherever the facilities are adequate for laboratory investigation, artificial kidney therapy and personnel trained in vascular and urological surgery.

Summary

A successful human homorenaltransplantation between two 36 year old male identical twins is reported. A modification in technique of ureteroneocystostomy is presented.

Negative sodium balance was seen for a period of time following surgery. The cause is unknown but it may be due to renal denervation or a combination of causes.

References

1. Ullmann, E.: Experimentelle nierentransplantation. Verlaufige Mitteilung. Wien. Klin. Wchnschr., 15:281, 1902.

2. Decastello, A. V.: Uber experimentelle nierentransplantation. Wien. Klin. Wchnschr., 15:317, 1902.

3. Carrel, A.: La technique operatoire des anastomoses vasculaire et la transplantation des visceres. Lyon Med., 98:859, 1902.

4. Hume, D. M.; Merrill, J., and Miller, B.: Homologous transplantation of the human kidney. J. Clin. Invest. 31:640, 1952.

5. Dempster, W. D.; Jockes, A. M., and Oeconomos, N: The function of the kidneys autotransplanted to the iliac vessels. Ann. Roy. Coll. Surg. of England, 16:324, 1955.

6. Billingham, R. E.; Brent, L., and Medawar, P. B.: Acquired tolerance of skin homografts. Ann. New York Acad. Sc., 59:409., 1955.

7. Simonsen, M.: The acquired immunity concept in kidney homotransplantation. Ann. New York Acad. Sc., 59:448, 1955.

8. Brown, J. B.: Homografting of Skin: With report of success in identical twins. Surgery, 1:558, 1937.

9. Murray, J. E.; Merrill, J. P., and Harrison, J. H.: Renal homotransplantation in identical twins. S. Forum (1955) 6:432, 1956.

10a. Murray, J. E.; Merrill, J. P., and Harrison, J. H.: Kidney transplantation between seven pairs of identical twins. Ann. Surg., 148:343, 1958.

10b. Hume, D. M. and Schilling, J.: Comments on paper of Murray et al [9] (14a).

11. Menville, J. G.; Schlegel, J. U., Pratt, A. M., II, and Creech, O. Jr.: Human Kidney Transplantation in Identical Twins. In Press.

12. Winter, C. C.: A clinical study of a new renal function test: The radioactive diodrast renogram. J. Urol. 76:182, 1956.

A Community Cytology Program*

• This community service has been in operation in Baton Rouge since July 1, 1958, and has proved to be of value in the detection of early carcinoma.

J. P. GRIFFON, M. D.
CARY M. DOUGHERTY, M. D.
Baton Rouge

THE use of vaginal cytologic examination in the detection of early cancer of the uterus has become well established. The procedure is presently undergoing transition from a proven experimental tool to a practical aid for the practitioner. One method of accomplishing the transition is setting up of cytologic programs for use by all the practicing physicians of the community. The Baton Rouge cytology program is such an endeavor. It is patterned after several pioneer projects of this type but resembles more closely the Toledo, Ohio, program.[1]

Organization and Operation

The Woman's Hospital Foundation Cancer Detection Laboratory was started by the gynecologists of Baton Rouge. It is nonprofit in operation. The laboratory furnishes to any doctor requesting them materials for preparing vaginal smears in his own office. No smears are done in the laboratory, so that it is in no sense a clinic. Pick-up service for specimens is also furnished twice weekly, thus making the use of this aid more convenient for the busy doctor. Slides are labelled, stained, and screened by the cytotechnologist and reports are mailed to the doctor. The patient receives a statement from the laboratory, and, in cases where the smear is negative, a mimeographed note which reads: "Your cell examination was negative. The next cell test should be done in one year."

A report of "Positive for malignant cells" is rendered when it is judged that the cells are of the type coming from the lesions of carcinoma in situ and invasive carcinoma; this corresponds with Papanicolaou's Class III, IV, and V. Smears are reported "Atypical cells present" when the degree of atypism is not sufficient for the "positive" category, but suggestive of the cells seen in the histological finding of epithelial atypism, dysplasia, or anaplasia. This corresponds to Papanicolaou's "Pattern of superficial and intermediate cell dyskaryosis". In this laboratory the diagnosis of "Atypical cells" is usually accompanied by the notation that it is advisable to have the patient return in three months for repeat smear. It is to be noted that this reading is somewhat more cautious than Papanicolaou Class III, but more demanding than his Class II. The reason for departing from the Papanicolaou class grading is that it was thought that the reporting would be better understood by the clinician unfamiliar with the Papanicolaou system. Also, it has been noted that there is some variation among cytologists as to just what a Class III diagnosis means clinically and histologically. This simplified reporting may or may not be justified by the test of time.

Results

From its inception July 1, 1958, to the end of the year, 1959, the laboratory processed 4732 vaginal cytological smears. There were 4596 negative, 102 atypical, and 34 positive reports. (Table 1)

Among the atypical smears there were 58 in which repeat studies were carried

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* Presented at the Eightieth Annual Meeting of the Louisiana State Medical Society, May 4, 1960, in Baton Rouge.

From the Cancer Detection Laboratory of the Woman's Hospital Foundation, Baton Rouge, La. This study supported in part by a research grant from the Cancer Association of New Orleans and Cancer Society of Greater Baton Rouge.

TABLE 1
DIAGNOSIS ON VAGINAL CYTOLOGIC TESTS REPORTED ON 4732 SMEARS, BY THE CANCER DETECTION LABORATORY OF THE WOMAN'S HOSPITAL FOUNDATION, BATON ROUGE, LA., JULY 1, 1958 - DECEMBER 31, 1959

No malignant cells seen	4596
Atypical cells present	102
Positive for malignant cells	34
Total	4732

out. Forty-seven were found to have no abnormal cells, 8 had a second atypical smear, while 3 were called positive on re-examination (Table 2).

Table 3 lists type of disease found in the 34 instances in which malignant cells were reported. Four patients had a cervical lesion suspected of being cancer,

TABLE 2
RESULTS OF REPEAT CYTOLOGIC EXAMINATION AFTER FIRST ATYPICAL IN 102 PATIENTS

Repeat examination positive	3
Repeat examination atypical	8
Repeat examination negative	47
No other examination	44
Total	102

TABLE 3
DISEASE FOUND AMONG 34 PATIENTS HAVING POSITIVE CYTOLOGY

Clinical carcinoma	4
Microscopic carcinoma	4
Recurrent carcinoma	1
Carcinoma in situ	14
Epithelium atypism	8
Total	31

4 others had a microscopically invasive growth, and 14 were found to have carcinoma in situ. One patient was discovered to have a microscopic recurrence after full radiation treatment. Eight instances of epithelial atypism were found to be the source of cells regarded as malignant.

Malignant disease was not found in 3 instances when the cytologic smear was reported as positive for malignant cells. Table 4 shows the tissue diagnosis in these cases. In 1 instance a positive smear was read as negative when the tissue study revealed adenocarcinoma of the endometrium (Table 5). Five positive cells or

TABLE 4
DISEASE FOUND WHEN POSITIVE CYTOLOGY NOT SUPPORTED BY TISSUE STUDY

Cervicitis	2
Benign Endometrium	1
Total	3

TABLE 5
DISEASE FOUND BY TISSUE STUDY AFTER REPORT OF NEGATIVE CYTOLOGY

Adenocarcinoma of endometrium	1

clumps were found on the slide upon review.

Looking at the results of the cytologic screening, several questions may be asked: How many clinically unsuspected malignancies were there? Is there a practical reason to continue the "atypical" category? What uses other than screening may be accomplished by the procedure? What will be the long range effects of the continued testing of the women of this area?

From Table 3 it can be seen that there were 4 microcarcinomas and 14 carcinomas in situ which may fairly be counted pre-clinical. The exact significance of epithelial atypism is not known but currently it is thought to be at least a precursor of cancer, if not an actual step in carcinogenesis. The matter of spontaneous regression is not settled. Thus, there is considerable value in learning in which cervices this lesion is located.

The question of whether to report atypical cells will be more fully answered when the natural history of cervical cancer is finally understood. The fact that 2 patients had first an atypical and then a positive smear would seem to indicate that it is important to identify these smears. Each cytologist has his own conception of just how much atypism constitutes the diagnosis of "atypical cells". In a given series of smears, cells can be found exhibiting gradations of structure all the way from normal to malignant, and where to draw the line along this path of finely graded degrees of increasing abnormality may be a matter of opinion.

At least one other useful purpose is indicated for widespread application of the

cytological smear, that of detecting early vaginal or cervical recurrence of treated carcinoma. In the experience of the laboratory this use has been of value not only in the one instance where a microscopic recurrence did occur but also in a number of cases where negative smears have ruled out local recurrence.

Burns [2] has shown that the continuous operation of a community cytology program can change the major characteristics of cervical carcinoma disease in the community. It would not be too much to expect that the program of the Woman's Hospital Foundation could produce that effect also. The annual rate of occurrence of cervical cancer in East Baton Rouge Parish has been studied [3, 4] and it has been noted that there are some 30 new cases per year among local residents. The fact that 18 instances of early carcinoma have been found in a year and a half would certainly indicate that the continued detection of these curable lesions would soon lessen the number of clinically recognized malignancies in this same locality. One would seem to be justified in having a great deal of optimism for the long range outlook, particularly since it is probable that there will be further expansion of the use of vaginal cytology in the detection of genital cancer.

Summary

1. A community cytology program was instituted a year and a half ago, sponsored by the Woman's Hospital Foundation of Baton Rouge.

2. A Cancer Detection Laboratory furnishes the material with which each private physician prepares smears in his own office, the pick-up and delivery service for specimens and supplies, and the cytologic interpretation for vaginal cytological examination.

3. The laboratory has processed 4732 smears and found 34 positive among these. Eighteen subclinical carcinomas of the cervix were discovered in patients having positive smears.

4. There is reason to believe that the increasing and continued use of vaginal cytologic examination will bring about a lower rate of occurrence of invasive carcinoma of the cervix in the Baton Rouge area.

References

1. Hufford, C. E., and Burns, E. L.: Papanicolaou Test in Early Diagnosis of Uterine Cancer. Ohio State M. J. 44:900 (Sept.) 1948.

2. Burns, E. L., and Gorski, T. W.: Five-year Cure Rates of Clinically Occult and Suspected Uterine Carcinomas. A Community Cancer Detection Program. J.A. M.A. 166:568 (Feb. 8) 1958.

3. Dougherty, C. M., Hitt, H. L., and Tolbert, C. M.: Carcinoma of the Cervix Among Residents of East Baton Rouge Parish: 1. Influence of Selected Factors On Morbidity. J. La. State Med. Soc. 109:287 (Aug.) 1957.

4. Dougherty, C. M.: Morbidity From Cancer of the Uterus In East Baton Rouge Parish. (In press).

Discussion

Dr. Cary M. Dougherty (Baton Rouge): There are several points bearing on accuracy of this method of examination which should be brought out. The laboratory rendered a diagnosis on every slide submitted. There were none reported as unsatisfactory. The small risk in this decision was accepted as a shortcoming of the cytological method. It should be noted, however, that finding no cells on a slide usually indicates that no abnormal cells are harbored by the cervix, since abnormal cells are easily removed by scraping. Second, in instances where the cytological diagnosis differs from the tissue diagnosis, it is not acceptable practice to write off the cytologic diagnosis as erroneous. Unless special precautions are taken in preparing the histological specimen a small carcinoma can be readily missed. These precautions include taking a large number of blocks and sections from well oriented gross tissue. Overall, the cytologic examination must be considered more sensitive than tissue examination as practiced in the average histopathological laboratory.

A fact which is more and more coming to light with the handling of many of these early lesions is that a microscopic focus of carcinoma cells constituting a microcarcinoma is not a serious threat to life as is the case with gross carcinoma. This is supported by observations that some tiny cancers can be cured by biopsy only; that sometimes an untreated small lesion on long follow-up will be seen to disappear from the cervix, either healed or regressed spontaneously; and that early disease has been known to remain in situ for many months without spread.

If cytologic examination lives up to present promise and if most cervical cancers do prove to originate in the early lesions we are now finding, then no claim will be too wild, no statement too exaggerated as to the great value of cytology.

Dr. Nelson D. Holmquist (New Orleans): Several points discussed in this paper bear emphasis.

It is not surprising that the one case missed in this cytologic program was that of an adenocarcinoma of the endometrium. Unfortunately, this type of tumor sometimes is not detected by the vaginal smear either because the tumor cells are not present on the slides studied or the tumor cells are not recognized because they may not have the bizarre features of cells of squamous cell carcinoma of the cervix. This was also the case in the study of Burns and Gorski mentioned by Dr. Griffon. They found in a nine year study of 29,687 women that 85 per cent of the carcinomas of the cervix were detected cytologically whereas only 49 per cent of the carcinomas of the endometrium were detected cytologically.

The real value of the cytologic technique was brought out here very strikingly in that eighteen cases of early carcinoma of the cervix, which clinically were unsuspected, were detected by cytologic examination. Through such early detection we may look forward to the possibilities of early diagnosis and treatment of this lesion.

The classification of smears which I employ differs somewhat from that described by Dr. Griffon and Dr. Dougherty but such differences should not create problems at the local level as long as there is a close liaison between clinician and cytologist.

Finally the study has emphasized the use of the technique as a means of *detection* of carcinoma and each case with an atypical or positive cytologic interpretation was followed with a biopsy for confirmatory diagnosis. Biopsy diagnosis should be obtained in every case with a questionable or positive cytologic interpretation before the patient's treatment is determined.

Letters to Young Physicians
By an Octogenerian

* * * Let me commence by hoping that your Diploma was given by an institution of high standing and strict requirements. I look with disfavor on the mushroom medical colleges springing up all over our lands. Hardly a small city of 25,000 inhabitants but must needs have its one, and in many cases two colleges, or diploma machines, as we may more properly call them. They are scarcely anything more than places for lazy men. A young man wants to practice medicine, but does not care to exert his worthiness and much indulged self enough to win a diploma from a college where requirements are strict. So he enters one of these diploma mills, is run through in the appointed time for so much. Out of a class, say of 190 men, 187 will pass at the first off and the other three will very probably get "a second showing," and receive a license to go out and murder—yes—that's the word—murder, for not only do they go out to physic human beings, knowing nothing of medicine, but ignorant of the first principles of anatomy and physiology, and they do all this willfully, and it shows how degraded the human heart can become, for they know that they will not be found out, or at least think so. Would one of them dare build a house, knowing no more of architecture and house-building than about medicine?

New Orleans M. & S. J. 10:590 (February) 1882

Dignity in Death*
The Application and Withholding Of Interventive Measures

• A plea for comfort and relief to the dying patient—not euthanasia, but agathanasia.

THOMAS T. JONES, M. D.†
Durham, N. C.

IN giant strides, we pyramid measures designed—so often successfully—to restore vitality and to prolong life. In the field of obstetrics we may intervene to facilitate birth; in attending the dying, we endeavour to deprive death of its victory. But in so doing, have we added to its sting? If not *euthanasia*, why not *agathanasia?*

Accounts of Death

Thirty years ago, during one phase of a rotating internship, I was alone in charge of a large chronic hospital with over a thousand patients. Rounds were attempted twice a day, an ambulatory chore of no mean accomplishment, for each performance took about six hours.

Fortunately for me, the charge nurse of each ward escorted me briskly through her particular area and would brief me on each patient as we passed. Stops were made for quick examination as she would indicate, or as my interest or attention was aroused, and suggestions would be made as my judgment and the nurse's more familiar understanding of each case required.

The evening hours were usually spent in examination of new admissions, usually the incurable patients referred by the several teaching hospitals of the city. That was discouraging enough.

But the nights—the endless nights of that three month stint—brought the hours of the interregnum of death. Each night saw one or several wheeled away, and I still vividly recall one night on which seven died, three in one ward. Beds one, two and four in that particular ward were emptied at one, two, and four in the morning. And as I covered up Mr. Four after determining death, the man in bed three remarked sleepily, "You're slipping, Doc, how come you missed me?"

With all the macabre tone this account holds, as I recall those early experiences now, I am obliged to admit that there was far more natural dignity and experienced gentleness in those deaths than is the rule in many general hospitals today. The nurse was in constant and comforting attendance, a few patients able to be up were close by, quietly ready to help if needed, and the few, very simple creature comforts were attended. Light was provided, borrowed pillows raised the head, a fan stirred the air unobtrusively, damp cloths kept face and hands moist, and quiet words, murmured and echoed around the bed gave the comfort of presence—and that was all.

Instruction comes back to me now from a senior instructor: "There comes a time when the only kindness left you can do, is give G.O.M." Grand Old Morphia—king in its day, is seldom used now as it was then, and both its purpose and dose then were to relieve distress, to comfort anxiety, to assure relaxation, and to prevent the anguish and torment of the final reflex convulsive transition.

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* Presented at the Twenty-Fourth Annual Meeting of the New Orleans Graduate Medical Assembly, March 6, 1961.

† Chairman of Subcommittee on Alcoholism, Medical Society of the State of North Carolina; Associate in Medicine, Duke University School of Medicine, Durham, N. C.

Lord Horder it was, I believe, who said, "The physician has every obligation to prolong life, but he has no right to interfere with the act of dying". Trudeau observed, "We can cure sometimes, relieve often, but we can comfort always".

One night, not so many years ago, I experienced a night long vigil that left me shaken for days after. An elderly patient, senile to the degree of happy confusion, was slowly dying of the effects of a major stroke and paralysis of his left side. A fairly large carcinoma of the left temple was left alone, for it seemed to cause little trouble. But circumstances would have it that he developed an acute abdomen.

This tragic interlude posed an acute situation for me and for family alike. While I held out for medical management and expectant treatment, a son, who understandably felt this was a matter for surgical judgment, asked for consultation, and after two harrowing hours of conference and indecision, an exploratory operation was done, and a grangrenous, perforated appendix was exposed and removed.

The postoperative period was stormy at best. Constant nursing care was provided, all possible help was given, yet despite it all, he continued a downhill course.

The night referred to was his last night. I had been by several times, but could do little except try to comfort the relatives as he was obviously dying. On the last such visit, the son came from the room, and urged me inside. This scene met my eyes: The surgeon was doing a "cut down" to restart an infusion; the nurse with mouth gag and suction apparatus was aspirating secretions from the throat; while the patient, already deeply cyanotic, began to have a series of convulsions and died.

The picture of that moment remains with me, as I am sure it remains with the members of the family who were present, huddled in one corner of the room: They were barred from approaching the bed by oxygen tank, suction apparatus, tubes for suction, catheterization and infusion, as well as by those of the staff at the bedside who had completed the "cut down", and now were attempting artificial respiration.

But the patient was dead. He was 92.

Explanations and description followed. The probable causes of death were enumerated. Autopsy was requested, and was denied. As the family slowly left and started down the hall, the son was heard to say, "Those doctors sure tried everything they knew how, but gosh—didn't dad catch it awful".

That is their heritage and their memory.

By contrast, may I offer one other statistic. This patient was a 78 year old grandmother, who had had operative removal of a carcinoma of the colon a year before, and on re-hospitalization, was found to have generalized metastases. She suffered a stroke, with aphasia and right hemiplegia, and after available veins one by one had succumbed to the trauma of intravenous feeding, she was started on tube feedings. This situation was stabilized only after the good arm and leg had been restrained, and for several weeks slow decline persisted without any particularly notable event. She did moan constantly, and would point as best she could to the nasal tube and then upward. Two questions were asked, and each answered in the affirmative with vigorous nods: "Do you want the tube out and feeding stopped?" and the other question, "Do you want to die?"

Several times, as the restraints were changed, she would manage to get hold of the nasal tube and quickly snatch it out. But it would be re-introduced after a lively tussle.

One Sunday morning, on my rounds, I found the patient quiet, but obviously very low — almost moribund. Something had happened; something critical, most probably additional stroke, or perhaps hemorrhage into some metastatic area. She recognized me with a feeble nod, and as before tried to point to the nasal tube, her life-line, and then upward. I asked again the questions, "Tube out?" "Do you want to die?" Again she nodded to both.

The tube was removed, and the restraints untied. All other evidences of auxiliary help were taken away, and her understanding nurse went gently to work making her as attractive and comfortable as possible while I called the family and asked them to come at once. I also called the minister, and all arrived not long afterward.

The changed situation was explained, and my reasons for discontinuing all contrivances were given. The patient nodded approval to all I said, and with the good arm now freed, pointed upward.

Moderate sedation and analgesia were given as the cyanosis deepened. The minister gave a brief and beautiful prayer, and then one by one the family members with the nurse's direction, sat beside the patient's bed and each expressed love, and told briefly of some treasured memory. The husband was last. He took his place and leaned close to whisper. The patient smiled, sighed briefly, and died.

These two death-bed accounts, in my opinion, hold great significance. We are taught, properly so, to restore, to relieve, to prolong life to its richest and its fullest. But we learn only by death repeated over and over again, how to comfort and attend, in that time of great significance, the dying moments of our patients.

Moral Obligations

The word, *"euthanasia"*, is anathema to us. Yet it was an apt word at one time, for it meant literally, the good death. Unfortunately—it came to be applied to "mercy killing", to any positive act of interference or deliberate move designed to hasten death, or literally to put to death painlessly. Such is forbidden by conscience, by the ethics and morality of our profession, and by law.

Yet, in my opinion, I believe we have a moral obligation of the highest order, to attend our patients with skill, tenderness and constancy, while they are in the act of dying.

Most general practitioners are acutely aware that a great percentage of their bed-ridden, incurably wasting and terminal homes. Most of us are by our middle and later active years so thoroughly familiar with the various manifestations of impending death that it is second nature to acknowledge its approach. We are the ones who get the familiar call from hospinally ill patients die at home or in nurstal or clinic, "Doctor, I'm sending you a patient. Everything possible has been done, and he's going downhill fast now. Will you look after him?"

So—he becomes our charge, our responsibility, and our statistic.

Care of the Dying

It has long been my contention that we should redirect our attention enough to grant that we need more early instruction in the art, and it is an art, of attending the dying; to attend with the realistic acknowledgement patients do die, and that we, of all people, while not omnipotent, can recognize approaching death far better than any except the older nurses, who, like us have seen death so often.

It is repetitious to say that medicine has advanced tremendously. We have operations that are brilliant and daring. Ingenious prostheses can do everything but bleed and sweat, and for all I know can do even that. Hearing aids, artificial kidneys, heart valve replacements and even miniature embedded pace-makers are well known. The multiplicity of such advances is legion—and it seems that with the rapidity that innovation, refinement and substitution is taking place, we are just getting started. New specifics also are achieving meritorious recognition.

With life-expectancy lengthening, death is being pushed further and further away. Yet—it is still as true as in the beginning; we are born to die, and die we must.

Since this is so, and since the dignity of the individual is cherished by our culture, should we not be the ones to say, "As birth and life are within our province of care, so is the responsibility of caring for the dying." And this, not with the air of one who tries to "play God", but with our known and shared art of the care of the dying, to develop and exchange

ideas of procedure, drug administration, and other niceties of medical care, continue to serve the dying faithfully and well.

Research must and will continue to amaze and stimulate us. We can do no less than to devise or require that those who attend the dying patient learn as an individual and expanding art those procedures best to relieve and to comfort him that he may go his way with dignity, and with a cherished memory left behind to sustain and ennoble the lives of those who follow.

May I suggest a name for this performance; for this ministry of medicine as a terminal service: *Agathanasia* — A good death, or a death with dignity.

Editorial Department

* * * Dr. D. C. Holiday of this city has been striving for several years to organize a school for training nurses in New Orleans. It may be that some others have enlisted their names and influence on his side of this question, but we do not know this to be the case. On the contrary we have heard that there is much opposition to the establishment of such an institution. Exactly where, or why this opposition has sprung up, we are not able to state explicitly. We also believe that it would do nothing in the way of effecting its removal to publish expressions implying a suspicion as to the seat and causes of the opposition.

There are few cities in the world where the skillful and methodical training of nurses is more needed. The blessings of thousands of rescued lives would, in process of time, accumulate around a well conducted training school here, and sanctify its estimation by every philanthropist in the country. Here, we have ample opportunities to train as nurses persons acclimated to Yellow Fever, who would be ready to go to any part of the country where their services were required.

New Orleans M. & S. J. 8:467 (December) 1881

Bronchial Asthma*
(Practical Points for its Management)

• Practical points for good allergic history taking; evaluation of points of importance in physical examination. What laboratory and allergy studies are helpful when; helping hints for therapy, listed both by basic principles and a specific example; prognosis and complications.

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Introduction

FEW areas in medicine reward your skills and efforts of careful diagnosis and management more than the treatment of bronchial asthma. While in many other medical subspecialty areas little can be modified by effort, due to the nature and unalterability of the disease, the outlook in the management of asthma is very bright and encouraging.

Diagnosis

Bronchial asthma is an allergic disease, clinically characterized by wheezing, physiologically by diffuse airway obstruction, the symptoms of which are *reversible* on treatment.

The definition, as given, requires an antigen-antibody mechanism to be operative and excludes, therefore, nonallergic other causes of wheezing. Wheezing, or diffuse airway obstruction, which is irreversible, is termed pulmonary emphysema, in which allergic mechanisms play no role. Bronchial asthma is temporary and "reversible pulmonary emphysema". Permitting this reversible situation to remain symptomatic, be it by procrastination, lack of knowledge or prejudice against hyposensitization, will eventually lead to "irreversible pulmonary emphysema", usually referred to as diffuse obstructive emphysema. It is this latter complication, which is to be avoided. We classify bronchial asthma as either extrinsic or intrinsic. (Table 1)

Nonspecific factors, such as emotional stress, physical stress (cold weather, irritative dusts or smokes, odors, humidity, air pollution, etc.), infections, endocrine factors (pregnancy, menstruation), and other nonrelated diseases can either trigger off latent or subclinical asthma or significantly aggravate mild bronchial asthma. They, by themselves, do not cause bronchial asthma, which, by definition, requires the presence of an underlying immunological mechanism.

The term status asthmaticus is applied to persons with severe symptomatic bronchial asthma, who have failed to respond to simple bronchodilator therapy. As the treatment of extrinsic bronchial asthma differs considerably from that of intrinsic asthma, this ability of classifying asthma has considerable practical merit. It is true that neglected extrinsic asthma sooner or later acquires a secondary intrinsic component due to later acquired bacterial hypersensitivity, so that this clear separation is not always present in severe, long standing asthma, so called "mixed extrinsic and intrinsic bronchial asthma."

1. Practical Points for Good Allergy History Taking

Of all diagnostic methods, a careful and very detailed history, is by far the most important single diagnostic tool. Especi-

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TABLE 1

	Extrinsic bronchial asthma	Intrinsic bronchial asthma
Antigen	"Extrinsic", coming from the outside of the body, such as house dust, pollens, molds, animal danders, etc.	"Intrinsic", coming from within the body, usually a bacterial, viral or fungal antigen.
Antibody	Circulating, in the serum, but with affinity to fix itself to tissue cells (also called reagin or skin-sensitizing antibody).	Cellular, in mononuclear white blood cells, not present in the serum.
Pathology in bronchial walls	Edema first, cells later.	Cells first, edema later.
Mode of onset of clinical symptoms	Quick and sudden (within hours).	Slow and insidious (within days).
Response to bronchodilators	Quick and dramatic.	Slow and minimal.
Positive family history for allergic disease	Usually yes (atopic individuals).	Usually no (non-atopic individuals).
Usual onset	Early in life (childhood onset).	Late in life (adult onset).
Candidates for Hyposensitization	Yes (creates an artificial protective blocking antibody which competes for the offending antigen and disposes of it without the usual clinical disease).	No (except with bacterial antigens, the use of which is empiric and controversial).
Principles of treatment	Combat the histamine-like effects of increased vascular permeability, edema and bronchospasm, which resulted from the antigen-antibody reaction of the immediate type.	Combat the effects of a mononuclear cell inflammatory response to a bacterial or other "delayed type" antigen.

ally in extrinsic bronchial asthma, the knowledge of the various pollination and mold spore seasons will come in good stead. Simplified they are as follows:

Eary spring
Tree pollination

Late spring and summer
Grass pollination

Late summer and early fall
Weed pollination

Early spring to late fall
Atmospheric molds

Winter
House dust contact more intensive

Winter, or all year
Environmental molds

May to September
"X hayfever"

In a more graphic description, this is depicted for Louisiana in Figure 1.

Pollination requires dry and sunny weather; no pollen is in the air when it rains. It is of help, therefore, to establish, if symptoms are worse on a clear and sunny day or on a cold, damp and muggy

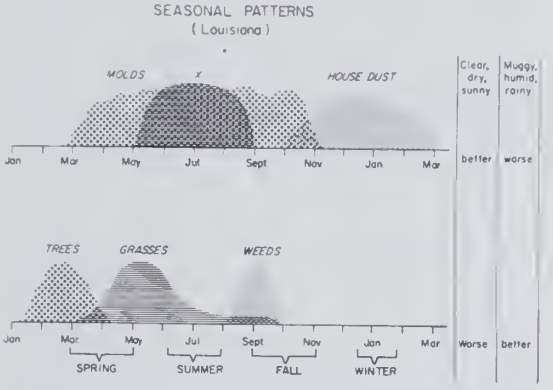


Figure 1. Oversimplified schematic pattern of seasonal incidence of various inhalant factors of extrinsic bronchial asthma.

day. It is true that mold allergic patients are usually worse on such damp and overcast days. As the body of knowledge, concerning the biologic behavior of the various molds, is much more sparse than that with conventional pollens of trees, grasses, and weeds, further knowledge and research in the field of mold allergy is the most pressing problem in Louisiana; especially for the low-level swamp and bayou country of southern Louisiana, mold aller-

gy is the most frequent cause for extrinsic bronchial asthma. This is not generally recognized. There are at least 30 clinically significant mold antigens.

Although theoretically the onset of an asthma attack at night in the bedroom would point to environmental factors such as house dust, pillow feathers, animal danders or environmental molds, such behavior is also sometimes seen in cases, caused by agents clearly coming from outdoors, such as grass pollen. The fact that air conditioning helps the patient suggests an atmospheric factor such as pollens, the unknown x-factor or the atmospheric molds.

Seasonal inhalant asthma is sometimes hard to distinguish from a seasonal food. It is theoretically possible that a strawberry food sensitivity might fall into the time of pecan or oak pollination. At times it is difficult to decide if asthma is caused by a general atmospheric antigen or a local factor of a particular environmental mold in a particular home. Before proceeding with ill-advised recommendations to move to a different climate, it is of decided merit to have the patient try to live for a week each in 3 to 4 different homes in the same geographic area. The trouble may be limited to one single home and not be present in the other ones.

Things which encourage environmental mold infestation in homes, are leaky roofs, leaky basements, leaky walls, wallpaper covers, in short anything which permits humidity to become a greater factor. As a rule of thumb, a patient with any environmental mold allergy is usually more comfortable the higher off the ground floor level and the drier his particular room happens to be.

The importance of house dust factors, such as mattresses, upholstered furniture, curtains, chenille bedspreads, cannot be underemphasized. Very often one gets a history of no trouble outdoors during the day, but the wheezing occurs after a few hours back indoors. As people spend more time indoors in cold weather, as ordinary forced air heat ventilating systems do their best, to spread the dust around further, patients with dust allergy have more symptoms in the winter. Radiant heat or any other heating system, which does not require continuous air movement, has a decided advantage over forced air systems.

One should realise here, however, that dust hyposensitization is one of the easier and elegant forms of treatment, which yields the best results, compared to any other antigens such as pollen or molds. After 6 to 10 injections it is rarely necessary to be very strict and careful about dust hygiene measures, as the dust injections have remedied the problem effectively.

No matter, if one patient is at present clinically allergic to dog, cat or other animal danders or not, an asthmatic patient plays with fire, in permitting himself exposure to any highly antigenic animal dander. Never forget, in history taking, nonspecific factors such as smoking or possible drug hypersensitivity, such as phenolphthalein or aspirin. In the latter two, as with any ingested antigen, it is not only important to relate if they are associated with asthma attacks, but also what the time interval is between ingestion and symptoms. Milk serves as an example. If symptoms occur immediately after ingestion, the patient is allergic to milk as such. Skin tests would be positive to milk in this case.

On the other hand, symptoms may occur three or more hours after ingestion of the causative food, such as milk. In such cases an intradermal test to milk might be negative and one would have to test with the digestive product of the milk, namely milk proteose. Another clue in sensitivity to drugs given in tablet form, is the fact, that the patient may not be sensitive to the drug at all but to the tablet filler substance, such as karaya, gum acacia or gum tragacanth. Some of my patients tolerate liquid preparations of aspirin or chloromycetin, but not when they are given in tablet or capsule form.

The previous discussion dealt primarily with clues to arrive at certain specific antigens. If asthma has been of sufficiently long standing, a perennial pattern at

present will make it impossible to arrive at single factors. This may be true now, but was this the case at the onset of the asthma?

One should then pay particular attention to the behavior and circumstances of the asthma, when it first started. Did it first occur suddenly on a clear sunny day in September? How did it first respond to treatment? The importance of associated allergic complaints, such as nose itching, nasal blockage, rhinorrhea, generalized pruritus, skin allergies, should not be ignored in history taking.

Another frequent source of confusion, especially in the pediatric age group, is the problem to decide if one deals with an allergic problem or a respiratory infection. The dust allergy may be subclinical and unimpressive by itself, only to attract attention when the minimal dust rhinitis, with decreased nasal tissue resistance, has led to clear febrile and purulent respiratory infections. If one obtains a history suggesting three attacks of "pneumonia" each winter, and never any attack in the summer, this suggests the need to search for an underlying seasonal allergic factor. House dust sensitivity is a common one. It is undisputed, that effective house dust hyposensitization reduces the number and severity of upper respiratory infections, per winter, in such patients.

Another problem in history taking is to decide when one deals with intrinsic bronchial asthma and when with pulmonary emphysema. The former usually leads to the latter, and it is rare to find pure intrinsic asthma with no associated pulmonary emphysema. If patients with this general type of problem begin to wheeze more, it is hard to decide if this is due to the actual infection or due to the bacterial hypersensitizing response to the bacterial antigen. The slow and insidious onset of wheezing sets these asthmatics apart from those with sudden onset due to extrinsic bronchial asthma. These people with intrinsic bronchial asthma are the ones who may give you a history of "adrenalin fastness" and poor, slow or no response to bronchodilators. They may "wheeze all the time". Not a single moment may be there of a completely asymptomatic day. The onset of asthma usually, although not always, occurs late in life, and is usually ushered in by a febrile disease such as pneumonitis, pertussis, or a paranasal sinusitis. The family history need not be positive, while it is nearly always positive for allergic disease in extrinsic asthma. Neglected extrinsic asthma of long standing may eventually lead to mixed type (extrinsic and intrinsic) asthma due to a superimposed bacterial hypersensitivity.

If one obtains a history of patients having been in severe "status asthmaticus", this suggests that intrinsic factors of bacterial hypersensitivity must play a part, in most cases, as extrinsic asthma usually responds so nicely to bronchodilator medication.

2. Points of Importance in the Physical Examination

A patient with one single atopic disease (atopic = in which there is a positive family history of allergy) usually shows physical findings not limited to the main disease under study. Extrinsic asthma can best be viewed as one manifestation of a generalized systemic disease, which usually shows also other manifestations, such as a pale boggy nasal mucosa with or without polyps, with or without airway obstruction. A healthy or hyperemic nasal mucosa, in the absence of an acute infection, nearly always rules out the usual extrinsic asthma. Movement of the alae nasi suggests nasal blockage. Nasal patency is also checked by holding a piece of paper in front of the nostrils checking its movement. The conjunctivae may suggest the presence of injection and inflammation, with or without associated swelling of the eye lids. Repeated styes, recurring each year at a certain time, necessitate the search for allergic seasonal factors. Long standing allergic disease may lead to pale hypertrophic tonsils and adenoids, with or without Eustachian tube blockage, leading at times to hearing impairment and retracted ear drums.

Bilateral cervical lymphadenopathy suggests in an indirect way presence of long-standing underlying allergic disease, although obviously it may suggest many other things, such as chronic infection.

In the examination of the chest, the impression of an increased AP diameter is frequently misleading. A more reliable assessment of chest dynamics is the tape measurement of chest circumferences at the extremes of both expiration and inspiration. An excursion difference of 5 cm. between these two measurements is normal in adults. Decrease of this difference is a more reliable sign of lung hyperinflation than the AP diameter. It is of importance to evaluate other signs of emphysema such as the range of diaphragmatic excursions, by percussion. The need to detect other types of organic chest disease by inspection, palpation, percussion and auscultation is obvious. The occurrence of asymmetric wheezing should lead one to search for causes of airway obstruction other than asthma, such as a foreign body, an endobronchial obstruction, etc. If this obstruction is pendulous, positioning the sitting patient to the right and left, back and forth, may increase or decrease the wheezing in a patient, respectively.

A very common error results from the absence of audible expiratory wheezes on quiet breathing, in a chest, which appears silent due to "poor air entry". This means that the bronchial obstruction is so severe, that air flow via the obstructive site is not sufficient to produce a noise. Every patient, suspect of bronchial asthma, must be listened to on *forced* expiration, to detect wheezes, which otherwise would have been missed.

The examination of the heart centers primarily around the evaluation of pulmonary heart disease, detecting the presence or absence of right ventricular hypertrophy and comparing A_2 with P_2.

The skin in an atopic patient may show old areas of mild atopic eczema in the flexor surfaces of the extremities, the existence of which is usually not volunteered by the patient's history. Signs of excoriations over the part accessible to the scratching fingers, may suggest that the patient suffers from generalized pruritus, which may or may not be the result of a generalized histaminemia, due to release of histamine by antigen-antibody mechanisms. At times urticaria and angioneurotic edema is observed as are all types of allergic skin rashes, on the trunk or extremities. A rash under the nose is observed in severe allergic rhinitis, due to the irritation by the nasal secretion. Slight hyperemia on the flares of the nose is also at times observed. Circumoral rash or pruritus, palatal itching or similar signs around the anus, suggest food allergy.

In respiratory allergy one must evaluate the paranasal sinuses both by percussion and transillumination.

3. Laboratory Studies

One should have made the diagnosis after a careful history and physical examination, so that laboratory studies are sheer embellishments which at times render little additional value. The examination of nasal smears for eosinophils is viewed somewhat in this fashion, as is the examination of the sputum for Charcot-Leyden crystals and Curschmann's spirals.

Studies, to decide on the presence or absence of infection are important, such as the white blood cell count, differential blood count, the sedimentation rate and bacteriological studies of the sputum, throat, nasopharynx, maxillary sinus and other sources of infection, with immediate gram stain and with or without drug sensitivity studies. Of particular importance is the following of the peripheral blood eosinophil count, in a patient with bronchial asthma. In extrinsic asthma eosinophils are either normal or slightly elevated, while eosinophilia is more impressive in intrinsic asthma. The increase of eosinophils over a period of observation, is a poor prognostic sign in asthma. It means that bacterial hypersensitivity has occurred in a patient previously only sensitive to treatable extrinsic allergens. It may also mean periarteritis nodosa,

which is very frequently associated with asthmatic wheezing, or it may suggest hypoadrenocorticism. Other causes for eosinophilia must be ruled out.

Pulmonary function studies serve a very useful role in determining the reversibility of the airway obstruction. The determination of vital capacity and maximal breathing capacity, before and after bronchodilators is commonly referred to as a double spirogram. The greater the improvement on bronchodilators, the more favorable is the prognosis for treatment, while lack of good response to bronchodilators suggests intrinsic bronchial asthma, a superimposed infection or diffuse obstructive emphysema (see figures 2 and 3).

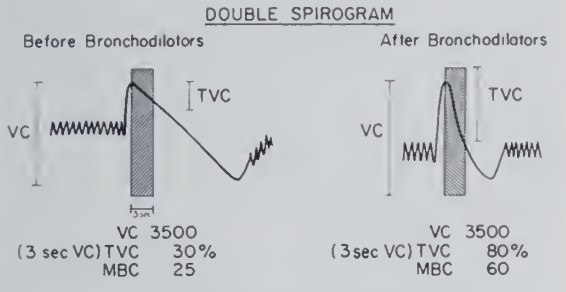


Figure 2. VC Vital Capacity
TVC That percentage of the total vital capacity, expired after three seconds.
MBC Maximal Breathing Capacity

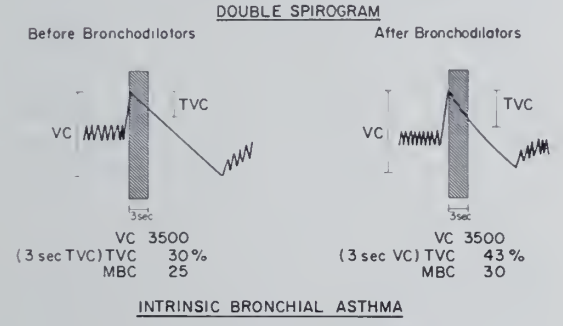


Figure 3. For explanation, refer to footnotes below Figure 3.

4. Allergy Studies

This should be considered only final proof. Procedures, after a good history and physical examination have already made it obvious what the offending antigen should be. Tests with antigens are:

1. Intradermal skin tests
2. Scratch skin tests
3. Patch skin tests
4. Conjunctival tests
5. Aerosol Inhalation of Antigen
6. Elimination diet and provocative trials.

Allergy skin tests are only performed in extrinsic asthma. If we do note a poor response to bronchodilators, which to us means primarily intrinsic asthma, we feel the effort of skin testing unwarranted, as hyposensitization therapy benefits only extrinsic asthma. In this area, in general practice, seven skin tests with antigen mixtures might serve as a practical screening procedure to delineate the basic problem: house dust, mixed trees, mixed grasses, mixed weeds, mixed atmospheric molds, mixed environmental molds and mixed animal danders. These skin tests can be performed by the scratch or intradermal method. A routine skin test strength would be 100 protein nitrogen units per ml. .for intradermal testing, while stronger concentrations are used for scratch tests.

In young children where injections are feared, one antigen at a time can be tested on the conjunctivae, or a regular passive transfer test can be performed using a nonallergic donor, on whose back the reactions between the child's serum and antigen are read. Any skin tests should be done on extremities, preferably, so as to be able to apply a tourniquet proximally in case of constitutional reactions.

5. Helpful Hints for Therapy

The treatment of bronchial asthma can be categorized into ten treatment principles.

(A) Interfere with antigen - antibody mechanism by:
- (a) Removing or reducing exposure to antigen
- (b) Destruction of antigen
- (c) Modifying antibody response
- (d) Decreasing antibody formation

(e) Interfering with antigen-antibody mechanisms without changing either amount of antigens or antibody.

(E) *Combat bronchospasm* (bronchodilators).
(C) *Combat bronchial secretions.*
(D) *Combat apprehension.*
(E) *Combat dehydration.*
(F) *Combat superimposed infection.*
(G) *Combat hypercapnia.*
(H) *Combat hypoxia.*
(I) *Combat respiratory acidosis.*
(J) *Mechanical aids to respiration.*

A. Interfere with antigen-antibody mechanisms

(a) *Removing or reducing exposure to antigen.*

Removal of the offending antigen, both in short-term or long-term therapy appears by far the most optimal form of therapy. In extrinsic bronchial asthma, house dust control measures are an example as is the covering of pillows and mattresses. The removal of animal pets from the patient's home is a must. If the offending antigen is an environmental mold, this may be present in one home and not another. The change of homes, on a trial visit basis, would clarify such problems. If the antigen comes from outdoors, air-conditioners, filters and electrostatic precipitators have some value in reducing the extent of indoor pollen concentration. In severe cases, the temporary move into a pollen-free area will be effective.

If foods happen to be the offending antigens, their removal from the diet will be necessary, provided it could be shown that readministration of the suspect food indeed caused a flare-up of the asthma. In intrinsic asthma, the avoidance of infections or the effective treatment of infections present, by antibiotic and other measures, will be discussed under item 6.

(b) *Destruction of antigen.*

Enzymatic destruction of an antigen, such as the destruction of circulating penicillin by penicillinase, as yet is unavailable for the common offending antigens. This form of treatment has no practical value in bronchial asthma.

(c) *Modifying antibody response.*

The creation of an artificial "blocking antibody", which competes with the reagin or "skin-sensitizing antibody", is the rational basis of *hyposensitization therapy,* using extracts of the antigen etiologically incriminated. Such treatment offers little help in acute asthma, but is of utmost value in the long-term treatment of extrinsic asthma, due to dust, pollen or mold sensitivity.

Hyposensitization injections are given by the co-seasonal, preseasonal or perennial method. In the *co-seasonal technique* small skin-test size doses are given daily intradermally during the active season. This method is cumbersome and requires daily visits to the doctor. This method alone, without combined symptomatic therapy, rarely completely abates clinical symptoms, while the latter can be expected if pre-seasonal or perennial methods are employed.

The *pre-seasonal method* starts in ample time before the onset of a particular pollen season, so that a protective level of blocking antibody will have been reached before the expected onset of clinical symptoms. If this maintenance level injection is repeated once a month throughout the year, or more often, if symptoms warrant it, this is referred to as *perennial method.* As the level of blocking antibody falls without continued stimulation by parenteral antigen stimulation, cessation of therapy usually will lead to return of clinical symptoms, although not right away. The criteria for cessation of hyposensitization treatment is three years absence of any asthma, on hyposensitization treatment. Eighty per cent of cases of pure extrinsic bronchial asthma, will obtain good results from hyposensitization therapy. Oral hposensitization therapy has been found of some value in children. The administration of increasing amounts of antigen in a gelatine capsule or as drops in water, has been employed. Some reactions, due to a gastrointestinal reaction to the anti-

gen, have been observed. Modifications of the hyposensitization treatment are being sought to reduce the number of injections required to obtain adequate clinical protection. The recently popularized "one-injection method", utilizing a repositary form of ragweed extract, merits further careful attention. These methods have in common the attempt to delay absorption of the antigen. Mineral oil, tannate and other adjuvants are being studied for their incorporation into a ragweed-extract emulsion with them.

Hyposensitization therapy is of no value in pure intrinsic asthma except for the possible value of either autogenous or stock respiratory bacterial vaccines. Their use is empiric and controversial. Commercial products, such as Immunovac® Respiratory Vaccine (Parke-Davis) and untold others, should be subjected to a critical trial. If used, the start of 0.1 ml. of a 1:10 diluted vaccine, is a usual starting point, although sometimes much higher dilutions are required. Although the use of these vaccines is controversial, the deliberate provocative injection of 1 cc. of undiluted bacterial vaccine causes at times a very severe asthmatic attack twenty-four to forty-eight hours after injection to a completely asymptomatic patient, thus establishing beyond a doubt that such patient has bacterial allergy. Such procedure should only be done by experienced allergists as it is potentially dangerous.

The use of prophylactic vaccines against all strains of influenza virus, including the Asiatic strain, adenovirus and others to be developed, is indicated for any long-standing asthma, especially those with primarily an intrinsic component.

(d) *Decreasing antibody formation.*

Although large doses of corticotropin (ACTH) and corticosteroids, if given prior to exposure to antigen, inhibit antibody production, employment of this principle of decreased antibody formation has only theoretical value, with the following exceptions: In patients with agammaglobulinemia and hypogammaglobulinemia there is congenital or acquired inability to form circulating antibody. No allergic reactions of the immediate type are therefore theoretically possible although their ability to form cellular antibody of the delayed-type appears unimpaired. The exact opposite is observed in patients with Sarcoidosis and Hodgkin's disease.

(e) *Interfering with antigen-antibody mechanisms without changing amount of either antigen or antibody.*

The union of antigen and antibody requires the presence of *complement* and perhaps essential ions such as magnesium and others. The presence of a "first antigen-antibody reaction", such as for example, an overwhelming infection, may temporarily protect against allergic disease of an unrelated "second antigen-antibody reaction", for which complement is less available. This is but one theoretical mechanism why infections sometimes temporarily ameliorate especially extrinsic bronchial asthma rather than aggravate it.

Histamine-like substances are the consequence of an antigen-antibody reaction. Drugs, such as antihistaminics, adrenalin, and other sympatheticomimetic drugs block the effects of them. Antihistamines were thought of no value in acute asthma, in fact their use seemed contraindicated, because of the atropine-like drying effect on the bronchial secretion. Recent work on Tedral-Anti-H suggests its superiority over plain Tedral, especially in the prevention of oncoming attacks. Although their use alone provides no relief in acute asthma and is contraindicated in severe asthma, their use in conjunction with bronchodilators merits a trial. I suggest the use of a long-acting antihistaminic at night time, together with liberal aminophylline, for such cases. Teldrin® 8 or 12 mg. or Di-Paralene® are few examples of many of this group.

The inflammatory mononuclear cell response of intrinsic asthma is suppressed by anti-inflammatory compounds such as ACTH, corticosteroids and nitrogen mustard. The latter is not used for the treatment of bronchial asthma. *ACTH and steroids* are to be used as desperate last-ditch measures, after any efforts of ther-

apy have failed. Since the advent of these drugs the mortality due to bronchial asthma has increased, many undesirable complications have occurred, such as diabetes, peptic ulcer, psychoses, hypertension and the like.

B. **Combat Bronchospasm.**

In mild asthma oral aminophylline tablets, either plain or enteric coated, are quite satisfactory. Aminophylline 100 mg. or 200 mg. tablets are given three times a day, preferably after meals, to reduce gastric irritation, which is observed as a common side effert, especially if given on an empty stomach. A liquid theophylline preparation, Elixophylline®, enjoys considerable favor, as it permits quicker absorption, quicker blood levels and less gastrointestinal distress. The dose of 15 ml. t.i.d. p.c. and 15 ml. at bed time is an average adult requirement, with half of the dose for children from five to fourteen years of age.

Choledyl (choline theophyllinate) 200 mg. t.i.d. p.c. is another oral tablet medication for the same purpose. Aminophylline can also be given in many combinations, with ephedrine and barbiturates added, the latter to overcome the CNS stimulant effect of ephedrine. Tedral®, Amodrine®, Amesec® are examples of such triple combinations. Ephedrine sulfate, in 24 to 48 mg. capsules, can be given alone. It is effective in mild asthma, but has side effects such as depression of appetite, if given before meals, CNS stimulation and interference with sleep, if taken too late in the afternoon. Slightly more effective, but with more side effects such as overstimulation and tachycardia are Isuprel® and similar compounds, which are given sublingually. The dosage of 10 mg. t.i.d. of Isuprel® for adults is average.

Bronchodilator medication can be combined with an antihistaminic. Although there are theoretical objections to the use of antihistaminics in symptomatic asthma (antihistamines have an atropine-like effect, leading to inspissation of mucus), recent controlled studies suggest that such compounds (as for instance Tedral-Anti-H) are superior over plain bronchodilator combinations without antihistaminics (as for instance Tedral). It probably is wise, however, not to employ antihistaminics in very severe bronchial asthma where inspissation of mucus might be a more dangerous factor. These bronchodilator-antihistamine combinations also have a place in the prophylactic sense, especially in the pediatric age group.

The compounding of a capsule, containing each ephedrine sulfate U.S.P. 25 mg., Aminophylline U.S.P. 100 mg., Phenobarbital U.S.P. 15 mg. to be given t.i.d. or q.i.d. may be less expensive than the use of pre-made registered trade items. Bronchodilators, in more severe cases, can also be administered by vein, intramuscularly, subcutaneously, by nebulizer inhalation either plain or with intermittent positive pressure or by rectum. Intravenous Aminophylline, either 250 mg. or 500 mg., in 10 or 20 ml. volume or in 500 to 1000 ml. of an intravenous solution such as 5 per cent dextrose in water, or physiological saline, or others, is a most superior drug. In small volume, it must be given not faster than 1 ml. per minute to avoid intravenous speed shock. Aminophylline can also be given rectally, either as Aminophylline Rectal Supositories in 250 mg. or 500 mg. There is a significant qualitative difference from one manufacturer of suppositories to another, due to their using suppository bases, more or less irritative to the rectal mucosa after prolonged use. A ready-made "enema-unit", Clysmathane®, is a more expensive but more satisfactory form of aminophylline therapy, one such rectal unit to be inserted into the rectum each night. Aminophylline can also be given as a retention enema (Aminophylline 500 mg. in 20 cc. per enema). As most of the asthmatics have symptoms late at night or early in the morning, bronchodilators with delayed action should be prescribed at bedtime. Enteric coated Tedral or Aminophylline are such choices, in addition to rectal medication, as described above.

The intramuscular or subcutaneous administration of aqueous Adrenalin 1:1000

in doses between 0.15 ml. to 0.60 ml. is potent, but has more annoying side effects than that due to intravenous Aminophylline, but the latter requires a physician for its administration. For prolonged Adrenalin effect Adrenalin in oil 1:500, 1 cc., can be administered, but "Sus-Phrine", in doses between 0.2 to 0.6 ml., accomplishes the same in more elegant fashion.

Using a good nebuliser, such as De-Vilbiss No. 40 or 44, a Vapo-Nephrine nebuliser or others, either operated by hand pump, an air compressor motor, and oxygen or compressed air tank, with or without an intermittent positive pressure unit attached, bronchodilator aerosol treatment is most effective. For this the aerosolization of 10 drops of Adrenalin 1:100 in 10 drops of normal saline suffices for an average treatment of fifteen to thirty minutes. Isuprel 1:200 or Aerolone® may be substituted for Adrenalin. The treatments may be given every two hours to four hours.

C. **Combat Bronchial Secretion.**

Everybody uses a saturated solution of potassium iodide, 10 drops in water t.i.d. p.c., if inspissated secretions are a factor. Whether or not this actually liquifies the sputum, is controversial. Equally controversial is the inhalation of Tergemist® and Alevaire®, as advocated in many centers. Cold or warm continuous steam inhalations are probably equally effective without leading to side-effects of iodine administration, referred to as iodism, such as acne, parotid gland swelling and thyroid dysfunction. Potassium iodide can be given in tablet form. One tablet of KI-N equals ten drops of the above solution, probably eliminating the metallic taste of the latter. Drugs such as Mudrane® and Quadrinal®, contain the triple effect of Aminophylline, Ephedrine and Phenobarbital, together with potassium iodide. Ammonium chloride tablets, 300 or 600 mg. 3 times a day, are given occasionally as an expectorant, as is Syrup of Ipecac U.S.P. 4 cc. every thirty minutes until the pre-nausea stage.

A new approach for combatting thick viscid secretions is that of enzymatic debridement of fibrinopurulent and mucus bronchial secretions. The buccal administration of one tablet of Varidase Buccal®, four times a day, for five days, is valuable. Also valuable is pancreatic dornase (Dornavac®) in 1 ml. saline, daily for seven days. The latter drug can also be given intramuscularly, or intravenously 1,000,000 units once or twice daily. In case of extreme airway obstruction with inspissated secretions causing atelectasis, therapeutic bronchoscopy on an emergency basis should be employed. If secretions are liable to recur shortly, a tracheotomy may be necessary in extreme cases.

D. **Combat apprehension.**

At times, the fear and anxiety are worse than actual impairment of pulmonary ventilation. Sometimes the patient requires sedation, while at others, the parents of asthmatic children require it more. The simple expedient of putting a patient to bed in a single quiet room, without any visitors, may do the trick, in an acute asthmatic. When indicated, long term sedation by Phenobarbital, 15 mg. q.i.d., tranquilizers or combinations of them with other drugs, are useful. For severe acute asthma, 25 mg. or 50 mg. of oral or subcutaneous Demerol® is most effective without considerable respiratory depression. Many other sedative drugs are available.

The most important, although most forgotten item is that of the presence of a mature sympathetic and confidence-inspiring physician, both in the acute as well as the long term management of apprehension. On the other hand, psychoanalysis and other less superficial forms of psychiatric treatments, create results, not well correlated with their expense and consumption of time. They may be indicated for the patient as a whole, but not specifically for his problem of bronchial asthma.

The use of morphine is definitely contraindicated, due to its depressive effect on respiration. In severe cases, equal

parts of 60 ml. each of ether and olive oil may be given by rectum. Ether anesthesia may be tried in extreme cases.

E. Combat Dehydration.

The presence of severe bronchial asthma over prolonged periods of time may be associated with more or less severe dehydration, especially in children. If at all possible, such dehydration should be corrected by the oral route, either by plain drinking of fluids such as water or fruit juices, or by intubation into the small intestine or stomach. In the latter the definite complication of aspiration pneumonitis is ever present. Fluids can also be given subcutaneously by hypodermoclysis with or without Hyaluronidase added to the needle site. This latter may be a practical way to administer fluids to adults and children, using about 10 ml. per pound of body weight of 5 per cent dextrose in water or normal saline, if there is no contraindication to the latter. Finally, solutions can be given intravenously, alone or as a vehicle for other symptomatic drugs and multiple vitamins, if such are indicated. The prevention of excessive perspiration, on hot days, is a further measure in combatting dehydration.

F. Combat superimposed infections.

The lack of recognition of an infection as a primary or secondary factor is the most common factor, which accounts for the progression into severe status asthmaticus from simple uncomplicated asthma. This infection is usually an upper or lower respiratory infection, although focal infections in distant organ sites, frequently nonsuspected, at times are very important to cause or flare-up an acute asthmatic episode.

Sites to be examined are the paranasal sinuses, a possible apical tooth abscess, the gallbladder, the prostate gland and many other foci. These foci may aggravate the asthma by its ability to set up a cellular antibody-antigen reaction (the antigen being the bacteria, the antibody carried in the circulating lymphocite) rather than by their effects as purely infective agents. Nonpathogens, therefore, are equally as important as known pathogenic offenders.

The criteria for the use or non-use of antimicrobial therapy require considerable judgment. At the onset, proper bacterial, viral, fungal, or parasite studies need to be made of the respective organ sites to delineate the etiologic problem. As stated, it is not necessary that the obtained culture material has to belong to the group of known pathogens. Sensitivity studies are then in order, although the correlation between in vitro sensitivity between organism and antimicrobial is not necessarily established with its behavior in vivo. If one were to wait for a sore throat and fever as the criterion for the beginning of antibiotic therapy, one would probably fail to treat many less obvious infections in the chronic asthmatic. The change of character of the sputum from a clear white to that of a purulent yellow may be an important help, to recognize a superimposed infection. More has been said concerning the infections in their role as acting as cellular delayed-type antigens.

The choice of the proper antimicrobial agent is either indicated by sensitivity studies or by the knowledge of the known preference of a drug for a known organism. It is accepted as a calculated risk that allergic reactions to any of the employed antimicrobial drugs will occur more frequently in this group of patients. Skin tests of fresh aqueous solutions of potassium penicillin in a dilution of 100 units per ml., may detect some of the possible penicillin reactors, although they do not safeguard against anaphylactic shock or other allergic reactions. With above reservations, the use of Procaine Penicillin G 6,000,000 units every 12 hours, Chloramphenicol 250 mg. every six hours, Streptomycin, Oxytetracycline, Sulfonamides, Oleandomycin and others, is indicated for bacterial infections. The combined use of Nystatin may prevent complications of fungal overgrowth of the intestinal flora, although its single use to combat respiratory monilia infection is unimpressive.

The antimicrobial treatment, once start-

ed, should be continued for ten to fourteen days to prevent relapses and the emergence of antibiotic resistant strains. The administration of antibiotics by aerosol administration no longer is very popular, because of potential sensitization to the aerosolized antibiotic. There are those who in cases of prolonged intrinsic asthma favor long-term prolonged antibiotic therapy with drugs such as Tetracycline. The majority of us, however, limit the use of antibiotics to the single episodes of infectious flare-ups.

In closing, less emphasis should be placed on eradication of infections and more on the prevention of the latter by utilizing some of the newer biological agents, such as Influenza virus vaccine, Adenovirus vaccine and others. The presence of other antigenic substances in these materials, such as egg white, does not exclude their judicious use in most asthmatic patients, who are insensitive to that particular foreign substance.

G. **Combat Hypercapnia.**

Simple asthma alone, without emphysema, rarely causes this complication of increased CO_2 content in the blood due to uneven and impaired pulmonary alveolar ventilation. Measures designed to improve the latter, are those directed against bronchospasm, secretions and infection. Attempts at direct lowering of blood CO_2 by carbonic anhydrase inhibitors (Diamox® and others), have not yielded impressive results.

H. **Combat hypoxia.**

Uncomplicated asthma rarely if ever causes hypoxia in the absence of other chronic lung disease. Hypoxia, in this case, is associated with hypercapnia and there is chronic depression of the medullar receptor mechanisms of respiratory regulation. As high-flow O_2 removes the chemoreceptor drive to respiration, causing apnea and mental confusion, nasal O_2 should not be administered in amounts exceeding 2 L/min., except in mechanical respirators.

I. **Combat Respiratory Acidosis.**

Respiratory acidosis subsides, as overall pulmonary status becomes compensated. Direct manipulation of the *p*H by "CO_2 organic buffers" is possible, but still in an experimental stage. The drug Tham (Trishydroxymethylaminomethane) appears promising in treatment of respiratory acidosis but requires further trials.

J. **Mechanical Aids to Respiration.**

Measures to improve pulmonary alveolar ventilation on a long-term or short-term basis are valuable. Abdominal breathing exercises, all stressing diaphragmatic breathing, are very helpful. They are usually supervised by a physiotherapist. In acute situations, mechanical aids to ventilation include mechanical respirators, such as the portable one, a pneumatic belt or the "iron lung".

6. Handling One Specific Patient with Bronchial Asthma

History: Mr. A. F. was born in Italy in 1890. He had an uneventful childhood history, the family history could not be elicited, as the patient failed to remember much about his parents in Italy.

While working as a baker, in 1928, he noticed a sudden attack of wheezing, which occurred in the bakery shop, in the winter months. A day later, he was fine, had no more wheezing or trouble. Two months later he had an attack of "pneumonia", associated with wheezing with slow onset, lasting one week. After this, he again felt well. In 1932, he again became very ill, had an attack of "double pneumonia", for which he was hospitalized for eighteen days.

He had been wheezing ever since. The history, since 1932, is that of progressive increase of his wheezing, associated with bouts of "pneumonia" and "U.R.I.", associated with cough, fever and purulent sputum.

The patient complained of nasal blockage and sneezing, associated with some periods of asthma, and he believed, that certain foods such as milk and egg, definitely aggravated his wheezing. At times he complained of a generalized pruritus, although no urticaria or actual rash was apparent. It was difficult for the patient to indicate seasonal aggravation of perennial wheezing, but he believed he had more difficulty in the early summer. The patient quit smoking ten years ago.

In cases, in which it is difficult to obtain a seasonal story, a careful search of

old hospital records can be most valuable. Figure 4 shows the results of such sur-

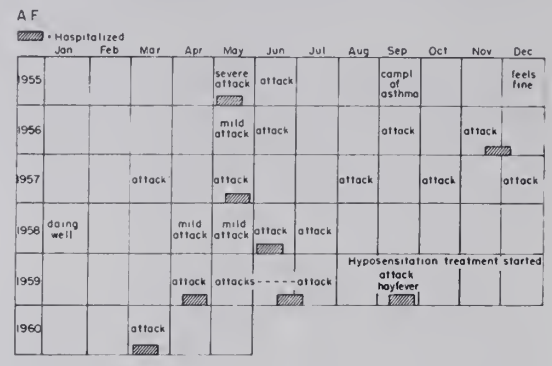


Figure 4. Review of old Charity Hospital Chart on Mr. A. F.

vey of the old Charity Hospital record, when entries in the record were plotted per month and year. Giving each attack a certain numerical figure, this seasonal behaviour becomes more apparent, if plotted in a graphical form (Figure 5).

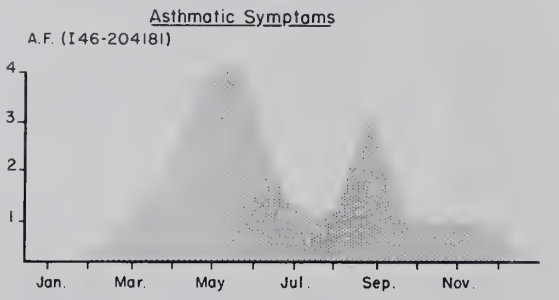


Figure 5. Graphic interpretation of old chart review on Mr. A. F.

On a basis of a careful history alone, utilizing some of the more searching techniques of gathering information, it appears that there are two peaks, in which the patient's asthma is more prevalent, these peaks correspond with the grass and ragweed seasons, suggesting some extrinsic component to this asthma.

Physical Examination:

General—Thin, elderly white male who appeared comfortable flat in bed, subjectively not short of breath, while at bed rest. T. 100°, P. 82, R. 20, B.P. 120/68.

Skin—Areas of vitiligo on lower arms, shoulders and neck, lower leg. Signs of scratching and excoriation on arms and shoulders.

EENT—Posterior pharynx inflamed, edematous. Postnasal drip, nasal mucus membranes pale and boggy. Conjunctivae normal.

Lungs and Thorax—A-P diameter increased. Chest expansion 2 inches difference between expiration and inspiration. Retraction of interspaces with inspiration. High pitched sibilant wheezes are heard in all lung fields. Resonant note upon percussion increased in all areas. Excursion of diaphragms 2 cm., bilateral and equal.

Heart—Normal sinus rhythm. Rate 83/min. regular. No clinical evidence of cardiomegaly. No thrills, murmers, or rubs, $A_2 = P_2$, no neck vein distention.

The physical examination still shows a good chest mobility of 2 inches difference between inspiration and expiration. This was encouraging, suggesting a considerable reversible element to the airway obstruction. Furthermore, nothing in the physical examination points to Cor pulmonale.

Laboratory:

Hb. 14 grams. Sedimentation Rate: 44 mm/h. WBC 13350, Diff: PMN: 78, L: 12, Eo 8, M 1, B 1.

Urine analysis: negative.

Cultures: throat: Neisseria catarrhalis. Sputum: Neisseria catarrhalis, Alpha hemolytic streptococcus, Staphylococcus aureus (sensitive to Chloromycetin—Albamycin—Erythromycin).

It appeared that infection played a role here and considerable eosinophilia suggested bacterial hypersensitivity, in short *intrinsic factors were suggested by laboratory tests.*

X-rays:

May 16, 1955: Possible basal bronchiectasis.

June 6, 1958: Markedly emphysematous—No definite pneumonia or bronchiectasis suspected.

July 31, 1958: Density left lung base.

September 1959: Fibrotic changes throughout both lung fields, no evidence of an active consolidation.

March 1960: Fibrotic changes both lung fields.

Electrocardiograms:

November 1956: Normal

May 1957: Suggestive of chronic pulmonary disease.

June 1958: Suggestive of chronic pulmonary disease.

June 1959: Suggestive of chronic pulmonary disease. Possible healed anterior lesion.

Prior to any further allergy work-up we must judge if there is sufficient reversibility and return to normal values, after bronchodilators. Only then could we expect significant help by treatment of this patient. (Table 2)

Marked improvement was noted after our patient inhaled Isuprel by the IPPB technique. This suggested that extrinsic asthma was his main problem, that he was a candidate for hyposensitization therapy, together with aggressive symptomatic care.

A diagnostic hospital study is the most convenient way to study a difficult and complicated problem of asthma. Various steps in such study are described in Table 3.

This diagnostic hospital study produced the following information: On admission there was

TABLE 2
PULMONARY VENTILATORY STUDIES

	Before IPPB with Isuprel			After IPPB with Isuprel		
	VC	TVC	MBC	VC	TVC	MBC
Oct. 8, 1957	2218	80%	33	3006	75%	52
July 3, 1959	1119	69%	22	3130	65%	60

VC = Vital capacity
TVC = 3 second timed vital capacity
MBC = maximal breathing capacity
IPPB = intermittent positive pressure breathing

TABLE 3

Date:	Action Taken:	Reason for This:	Observed Effect:
June 26, 1959	Admitted to hospital; no symptomatic treatment	Evaluate effect of removal from home environment	No significant change
June 29, 1959	Sputum culture treat with antibiotics	Evaluate importance of infection	Slight improvement
July 3, 1959	Double spirograms (one dose of Isuprel after baseline pulm. function studies	Evaluate reversibility of bronchospasm	Completely free of wheezing immediately after Isuprel IPPB
July 5, 1959	No treatment except antibiotics, pt's sputum no longer purulent		Wheezing 70%
July 7, 1959	Strict elimination diet ("only bananas")	Evaluate foods	Best night in 7-8 weeks
July 12, 1959			Wheezing (40%)
			Wheezing (20%) "but getting weak"
July 14, 1959	Intradermal skin tests to pollens and dust	Evaluate treatable inhalant factors	Acute attack 2-4 hrs. after skin testing
July 15, 1959	Allowed to recover from flare-ups caused by skin test		
July 16, 1959	Back on full unrestricted diet	Provocation test with foods (unrestricted diet)	Wheezing worse (70%)

an associated pulmonary infection which aggravated the asthma. The treatment of it left the patient, however, with nearly the same amount of wheezing, again suggesting that extrinsic factors were most important. This was further supported by the double spirogram values, the history and the physical examination. The improvement on a strict elimination diet and the worsening on resuming an unrestricted normal diet suggested food allergy factors, requiring further study in this patient.

In Table 4 are given the results of multiple scratch tests with food antigens, done throughout the years, by others and by us:

Therefore we used foods from group III as a basic diet. No flare-up of his asthma was observed on this basic allergy diet. We are not saying, that this patient could eat only the foods in group III, but these were the safest to start with on a base-line diet. Weekly, since, one food has been added to the list, which is evaluated on the basis of whether it clinically produces symptoms or not. After being stabilized on this diet, the patient was discharged home, with the medications unchanged from what he received in the hospital. There was a slight increase of his wheezing, immediately on returning home. This suggested some home allergenic contacts to be operative here likewise. On a return visit the patient admitted that he had had a small puppy dog in his home for the last five years. This pointed out one important fact. One should never consider a history completed. Additional bits of information must be sought after, at each further clinic visit. The removal of the dog led to some improvement of his symptoms, but there still was a residual amount of wheezing present.

Without skin-testing we have arrived at the following diagnostic impressions:

1. Chronic bronchial asthma, mixed type, extrinsic and intrinsic.
2. Possible bilateral basal bronchiectasis.
3. Minimal diffuse obstructive emphysema.

TABLE 4
SCRATCH TESTS

I. Positive on one test only

Buckwheat	Okra
Beef	Peanut
Chicken meat	Pecan
Coffee	Pea, green
Cabbage	Potatoe, white
Cocoa (chocolate)	Rice
Egg, whole	Squash
Fish	Tomatoe
Lettuce	Wheat

II. Positive on two tests

Bean, soy	Pork
Celery	Rye
Lamb meat	Spinach
Milk, cows	Shrimp

III. Negative on two tests

Apple	Cantaloupe
Avocado	Mustard
Artichoke	Oat
Bean, lima	Orange
Banana	Potatoe, sweet
Cauliflower	Oleomargarine
Carrot	Milk, goat's
Corn	

On the basis of a history and the hospital work-up alone we have established the following suspects for etiologic factors:

1. Grasses
2. Ragweed
3. Foods
5. Environmental molds and housedust (?)
5. Dog dander
6. Bacterial hypersensitivity

Immediate Intradermal Skin Tests (10-20 min.):

House dust + +	Alternaria +
Ragweed + + + +	Hormodendrum +
Mixed trees +	Mucor + +
Bermuda grass +	Candida Albicans + +
Marsh Elder + +	Penicillium –
	Aspergillus + +

A small one plus reaction to bermuda grass assumes, therefore, equal clinical importance as a four plus reaction to ragweed, on the basis of the history. On the other hand, the one plus reaction to trees, has no or little importance, as there are no increased symptoms during the tree pollination season. The molds appear clinically important as the patient's symptoms were observed to increase, when other clinic patients with known pure mold allergy also got worse.

Treatment:

Specific: Weekly hyposensitizations were started, using ragweed, marsh elder, bermuda grass, housedust, and the various molds. They were given, with good local swelling response at the site of injection. After twenty weeks of weekly injections the patient was on the perennial schedule, receiving a maintenance antigenic dose every month or earlier, if symptoms required it.

He continued to follow a liberal elimination diet, adding one item of food each week, to decide whether or not it clinically caused symptoms. He was carefully followed for flare-ups of bacterial infections, for which antibiotics were required from time to time.

Non-specific: Active bronchodilator, antisecretion and anti-apprehension medication is maintained, according to principles outlined previously. It has not been necessary to resort to steroid medication at any time.

Results: Mr. A. F. had no seasonal increase in symptoms April 1960 to June. He was no longer restricted to activity around the house, because of extreme pulmonary disability. He has not needed to go to the Emergency Room for six months, no adrenalin injections were required, he can now walk 10 blocks without becoming short of breath. He still wheezes, as he has a certain irreversible element of diffuse obstructive emphysema.

7. Prognosis and Complications

The prognosis of complete freedom of asthmatic wheezing, in extrinsic asthma, is 70 per cent, on good and competent combined specific and nonspecific therapy. In early "virgin" cases this percentage of good results is even better. The most impressive results are obtained with house dust hypersensitivity, and with pollen cases (trees, grasses, weeds). Mold hypersensitivity requires greater skill and is less successful. The results in intrinsic asthma are nonimpressive and each subsequent infection will lead to a flare-up of symptoms. The success here depends on the skill to avoid and treat infections, as they recur. The use of bacterial vaccines, to reduce the incidence of infections, is controversial and requires further unbiased, well-controlled study.

At times constitutional reactions occur with injection of antigen material. These are not too serious in the hands of those who are well trained to cope with such emergency, but are extremely dangerous, when good knowledge on treatment is deficient. A tourniquet proximal to the injection site is applied on the slightest suspicion of a systemic anaphylactic reaction, while adrenalin 1:1000 0.3 ml. is injected into the other arm and a similar amount

into the antigen injection site. At times, larger amounts are required. The concomitant use of an intravenous antihistaminic or steroid will at times be very helpful, to reduce discomfort to the patient.

Other complications, in the management of bronchial asthma, are those of progressive lung disease, with increasing pulmonary ventilatory dysfunction, severe emphysema and later cor pulmonale. This should really not occur in a well cared for asthmatic patient.

The most serious complications are the iatrogenic complications, primarily due to the injudicious use of steroid drugs, which are mostly employed not after a careful work-up, but rather instead of one. It appears that the mortality rate has increased since the advent of steroids, in the field of bronchial asthma. The complications are those due to adrenal cortical atrophy and a failure to appreciate the extreme exogenous steroid dependence of some of those patients, the other effects are those known, such as mental changes, osteoporosis, hypertension, hyperglycemia, gastric ulcers and the like.

Summary

Anybody can treat early simple extrinsic asthma with pills. This requires no skill. A good physician, however, will not procrastinate with symptomatic treatment alone, as this is short-sighted. The exact etiologic factors should be identified promptly, avoided or treated by hyposenzitation, in the case of extrinsic bronchial asthma. The sudden disappearance of wheezing, after adrenalin, or a good response on a double spirogram, are the most important prognostic clues, indicating the degree of reversibility of the disease. If wheezing is still present after six to twelve months of aggressive and conscientious management, with specific and nonspecific therapy, a complete reappraisal or a consultation appears indicated.

Today, there is every reason to be most optomistic and enthusiastic in the treatment of bronchial asthma, especially in its "virgin state", before irreversible changes have complicated the disease. Under any physician's management, there is no excuse for any simple extrinsic asthmatic patient, who continues to wheeze. You have the right to get complete freedom from symptoms, and you should expect it.

Acknowledgement: The author wishes to thank Mr. Eugene Taylor, Senior Medical Student at the Louisiana State University of Medicine, for his cooperation on the diagnostic work-up on Mr. A. F. Mr. Taylor reviewed the old Charity Hospital chart and performed some of the intradermal skin-tests.

Treatment of Upper Respiratory Tract Infections with Oxytetracycline

• The success of this drug in the treatment of 106 patients is pointed out. Most of the failures occurred in ear infections caused by pathogens resistant to other antibiotics.

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IN a monograph covering the first six years of oxytetracycline therapy, Musselman [1] pointed out that this is an antibiotic of first choice in infections not responding to penicillin, and this fact has been confirmed by experience of the ensuing four years. Infection of the respiratory tract, noteworthy for the variety of pathogens involved, has been found one of the best fields for oxytetracycline.

Denenholz et al.,[2] who reported success in the majority of cases unresponsive to penicillin, began treatment with intramuscular oxytetracycline and continued with oral administration. Now that a preconstituted intramuscular preparation of oxytetracycline is available, this method has much to recommend it, the more so as there appears to be no other broad spectrum antibiotic for intramuscular use that is at once convenient, stable and effective.[3, 4] It is thus feasible to treat serious infections with a broad spectrum antibiotic that has rapid action, and to continue with the same antibiotic given orally as soon as the infection is brought under control.

Materials and Methods

The present study is based on the treatment of 106 patients, 50 of them male and 56 female; 9 were infants, 50 were children and adolescents, and 47 were adults with an age range of 21 to 61. The diagnosis was otitis media in 41 cases, mastoid infection in 20, tonsillitis or adenoiditis in 19, rhinitis, pharyngitis or sinusitis in 12, bronchitis in 2, and furunculosis, cellulitis or abscess in 12. Many of the patients had chronic infections previously treated with penicillin, tetracycline or other antibiotics with only partial success or complete failure.

The infecting organisms were identified in nearly all cases, and their susceptibility to various antibiotics was tested. Virtually all the patients were first seen in the outpatient clinic of the Charity Hospital, and treatment was usually prescribed on ambulatory or domiciliary basis, with follow-up visits as frequent as was warranted by the severity of the infection. Seven patients were hospitalized, either because of the gravity of their condition or because home treatment had proved unsatisfactory because of failure to follow directions.

All patients were treated with oxytetracycline,* and oral dosage was preceded by intramuscular administration in 44 cases. Infants and children had 100 mg injections, twice in 2 of the 13 cases, and continued for two or three days in 6 of them. Older patients had 250 mg. injections, sometimes repeated two to four times daily, and continued for two or three days. Oral dosage for infants was 250 to 375 mg. daily; children were given 500 mg. to 1 g. daily; and adult dosage was 1 to 2 g. per day, the higher amount being sometimes decreased to 1 g. after a few days. Oxytetracycline was continued for five days in most cases, but in some for

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* The preparations used were supplied by Pfizer Laboratories as Cosa-Terramycin® capsules, Cosa-Terrabon® suspension and pediatric drops, and Terramycin intramuscular. The drops were used in infants, the suspension in children, and the capsules in older patients.

† Supplied by Pfizer Laboratories as Terramycin otic with polymyxin B sulfate and benzocaine.

as long as fifteen days. Many of the patients with otitis media or mastoid infection had topical application of oxytetracycline,† often in conjunction with oral medication, and sometimes replacing it after a few days. Vasoconstrictors, analgesics, antihistamines, gargles and sinus irrigation were prescribed in appropriate cases. Abscesses were incised and drained, sometimes with application of local oxytetracycline. Myringotomy was performed in 5 cases of otitis media.

Results

Results of therapy arranged according to primary clinical diagnosis are summarized in Table 1, and in Table 2 they are arranged according to bacterial diagnosis. Table 2 contains data on 103 infecting organisms recovered from 98 patients. The pathogens were not identified, or their susceptibility to antibiotics was not determined in the other 8 cases.

Generally speaking, there was good correlation between susceptibility and clinical results. For example, all 5 strains of proteus were resistant, and these infections were not cleared up. Staphylococcal infections, however, did not follow the same pattern. Out of 15 strains found to be resistant in vitro, 5 were completely controlled and 2 were partially controlled. Of all bacteria tested, 77 per cent were sensitive, indicating that oxytetracycline had a greater range of effectiveness than the other broad spectrum antibiotics.

All but one of the failures were among the cases of otitis media and mastoid infection (mastoiditis and postmastoidectomy infection). Nearly all of them were stubborn and chronic cases that had failed to respond to a variety of other antibiotics. They were classed as failures if the basic condition did not improve significantly, yet there was some improvement

TABLE 1

	Number	Cure	Improvement	Failure
Otitis media	41	29		12
Mastoid infection	20	7		13
Tonsillitis, adenoiditis	19	16	2	1
Rhinitis, pharyngitis	4	4		
Sinusitis	8	8		
Furunculosis, cellulitis	4	4		
Bronchitis	2	1	1	
Abscesses	8	8		
Totals:	106	77 (73%)	3 (3%)	26 (25%)

TABLE 2

	Number	Number sensitive or resistant	Cure	Improvement	Failure
Beta-hemolytic streptococcus	13	13 S	13		
Enterococcus	5	4 S	3	1	
		1 R			1
Staphylococcus	42	27 S	27		
		15 R	5	2	8
Pneumococcus	2	2 S	2		
Paracolon bacillus	12	10 S	9		1
		2 R			2
Escherichia	4	3 S	3		
		1 R			1
Aerobacter	5	3 S	3		
		2 R			2
Alcaligenes	1	1 S	1		
Proteus	5	5 R			5
Pseudomonas	14	5 S	5		
		9 R			9

in most of them. Fever, leucocytosis and upper respiratory symptoms subsided in most, as did a mastoiditis complicating a resistant case of otitis media.

Symptomatic improvement was apparent in an average of five days, and in the successful cases cultures became negative and the ears clear in one to two weeks. Some of the best results were seen in patients who were most severely ill. In a case of acute otitis media with mastoiditis, abscess formation and bronchopneumonia, the response was both rapid and complete.

The only failure not included among the ear infections was a case of tonsillitis in which a peritonsillar abscess developed, caused by a resistant staphylococcus. The infection was cleared by incision and drainage under cover of oxytetracycline. The response in sinusitis was particularly gratifying, as both acute and chronic cases were controlled within an average of five days.

A typical patient was a nurse of 44 who had bilateral maxillary and ethmoid sinusitis, with excruciating pain. Medication consisted of a single intramuscular injection of 250 mg. of oxytetracycline, followed by oral dosage of 1 g. daily in conjunction with a vasoconstrictor. Symptoms were promptly relieved and all signs of infection disappeared in eight days. A similar infection, two years previously, had responded poorly because the patient had a severe reaction to the sulfonamide used in treatment.

The only undesirable side effects were slight pain at the injection site in 1 case, mild nausea in 2, black tongue in 1, and diarrhea in 3 . The diarrhea was controlled in 1 case by reducing the dose from 2g. to 1 g. daily, and with an antidiarrheal agent in the other 2. Otherwise oxytetracycline was perfectly tolerated, and medication never had to be discontinued prematurely. It was the impression of the hospital staff that oxytetracycline was not only better tolerated, but more effective than other antibiotics habitually used.

Discussion

An interesting and confusing aspect of this study was the response of staphylococcal infections in relation to bacterial resistance. Only 36 per cent of the 42 strains tested were resistant to oxytetracycline. This is lower than usually reported in the literature, no doubt in part because the patients were not hospitalized; but it has been pointed out that the overall incidence of resistance is not so high as it was because there is now a certain equilibrium between emergence and disappearance of resistant strains.[5] Antibiotic combinations have been widely recommended for overcoming recalcitrant staphylococcal infections, and considerable clinical success has been reported,[6-11]

In the present series, about half of the resistant strains were completely or partially controlled. Perhaps this proportion could have been improved by adding a second antibiotic. Four of the resistant infections cured by oxytetracycline had failed to respond to previous administration of tetracycline, although there were a number of others resistant to both. There is often no difference between the antibacterial spectrum of the two antibiotics, but in some instances it has been found that oxytetracycline has a wider spectrum clinically [12] and a lower minimal inhibitory concentration in vitro.[13]

The results reported here are not brilliant, as a quarter of the cases were classed as failures. But since nearly all of the infections were serious, since most of the failures had been unresponsive to other antibiotics, and since oxytetracycline was often successful when other antibiotics had failed, there is good reason to consider it one of the most effective agents for treatment of infection of the upper respiratory tract.

An added advantage is the fact that it is extremely well tolerated; despite dosage as high as 2 g. daily, it was never necessary to interrupt treatment. For serious infections requiring rapid action, the availability of a convenient and well tolerated intramuscular preparation makes it possible to use the parenteral and oral routes concomitantly or serially without the necessity of changing antibiotics.

Most of the infections which did not respond to oxytetracycline therapy, especially mastoid infections and otitis media, occurred in patients who were exposed to various and prolonged antibiotic therapies, sometimes for a period of years. Most of the infections were chronic and sometimes resistant so that the blood supply was poor. Due to that fact a high concentration of the drug could not be obtained.

Summary

A series of 106 patients with infections of the upper respiratory tract were treated with oxytetracycline for five to fifteen days. Adult dosage was 1 to 2 g. daily by mouth, and dosage for infants and children was proportionately less according to weight.

In 44 cases oxytetracycline was given intravenously at the beginning of treatment, and it was applied topically in suitable cases of otitis media and mastoid infection. The medication brought about complete cure in 73 per cent of the cases and significant improvement in an additional 3 per cent.

Most of the failures occurred in ear infections caused by resistant pathogens, which had not responded to other antibiotics. Some of the patients responded well to oxytetracycline even though there was in vitro evidence of resistance and there had been no response to previous antibiotics, including tetracycline.

Undesirable side effects were minimal, and it was never necessary to discontinue therapy prematurely. It is concluded that oxytetracycline is highly effective in the treatment of infections of the upper respiratory tract.

References

1. Musselman, M. M., Terramycin, New York, 1956.

2. Denenholz, E. J., et al: Intramuscular oxytetracycline: Its use in penicillin resistant acute respiratory infections in pediatrics, Antibiotic Med. 1:153 (Aug.) 1955.

3. Hammer, H. F., et al.: Laboratory and clinical studies with a new, preconstituted intramuscular solution of oxytetracycline, Antibiotics Annual 1958-1959, p. 244.

4. Welnstein, H. J., et al.: Preconstituted oxytetracycline intramuscular solution, a new preparation, Antibiotic Med. 6:526 (Sept.) 1959.

5. Bauer, A. W., et al.: Drug usage and antibiotic sensitivity of staphylococci, J.A.M.A. 173:175 (June 4) 1960.

6. Arneil, G. C.: Combination tetracycline-oleandomycin treatment of acute respiratory infection in childhood, Antibiotics Annual 1958-1959, p. 327.

7. Winkler, A.: Klinische Erfahrungen mit dem Doppelspektrum-Antibiotikum Sigmamycin, Munch. med. Wchnschr. 101:165 (Jan. 23) 1959.

8. Morador, J. L., et al.: Three years of clinical experience with oleandomycin-tetracycline combination in the treatment of staphylococcal infections, Antibiotics Annual 1959-1960, p. 716.

9. Burdach, R., et al.: The use of tetracycline-oleandomycin combination in the acute pneumopathies of infancy, with particular consideration of staphylococcal empyema, Antibiotics Annual 1959-1960, p. 804.

10. Kratz, R. C., and Thronell, W. C.: Acute frontal sinusitis, A.M.A. Arch. Otolar. 65:105 (Feb.) 1957.

11. Prigal, S. J.: The treatment of sinorespiratory infections, A.M.A. Arch. Otolar. 65:527 (May) 1957.

12. Mel, C.: Valutazione statistico comparativa dell'' efficazia terapeutica della ossitetraciclina e della tetraciclina infezioni chirugiche, Minerva chir. 11:1170 (Nov. 30) 1956.

13. Love, B. D., Jr., et al.: Antibacterial action of tetracycline: comparisons with oxytetracycline and chlortetracycline, Proc. Soc. Exper. Biol. & Med. 85:25 (Jan.) 1954.

The Impact Of Dynamic Psychiatry In Louisiana*

• The spread of a new approach to psychiatric problems throughout Louisiana is described.

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WHEN one is confronted with a task of putting facts together in a fluid situation, which is relatively in its infancy, there is a tendency to be all inclusive. This inclination is tempered by the fact that it would be presumptious to draw broad inferences. Dynamic psychiatry in Louisiana is in just such a situation.

While there were forerunners of this trend earlier, its beginnings in a concrete way came in the turmoil of World War II, which awakened people to the need for greater understanding of human behavior. Psychiatry realized it had to abandon its descriptive and diagnostic approach and turn to the treatment of patients through understanding human emotions, behavior, and interactions. Prior to this time psychiatry in Louisiana, as in most other sections of the nation, was a medical specialty dealing only with mentally sick people. Today, psychiatry has developed beyond that point, and has expanded to join forces with other social sciences in understanding the human mind. In Louisiana, psychiatrists not only treat patients, but under the influence of the dynamic approach, also engage in cooperative efforts with such disciplines as social welfare, education, psychology, anthropology, sociology, law, and public health.

Nature and Development

Before discussing the status of dynamic psychiatry in Louisiana, let us briefly consider the nature and evolution of this approach. While there are many theoretical variations, and limitations of the scope of treatment, for all practical purposes dynamic psychiatry is synonymous with psychoanalytic psychiatry. Others have contributed to the field, and enlarged on psychoanalysis, but the fountainhead of theory and therapeutic techniques is the psychoanalysis developed by Sigmund Freud. In the latter part of the nineteenth century, Freud turned away from the cellular-pathological and mechanistic approach to mental patients and emerged with theories which commanded the attention of those who were dissatisfied with the traditional approach to medicine. His theories were based on two basic hypotheses: [1] psychic determinism and unconscious mental processes existing in all human beings, normal or mentally ill. These hypotheses were buttressed by his theories of resistance and repression, the etiological significance of sexual life, and the importance of infantile experience.[2] Later came the structural approach of id, ego, and superego. Today, we speak of these concepts in terms of ego psychology, defenses, relationships, and reactions.[3] Freud's theories of instincts, libido, and biological-sexual origins of neuroses have been subjected to severe criticism both within the ranks of psychoanalysis as well as from those not so trained. Nevertheless, his theories have formed the basis of what today we call dynamic psychiatry. The term dynamic is a Freudian designation for the interplay of mental forces.

Along with the dynamic approach, other important contributions to psychiatry influenced American psychiatry. Kraeplin's descriptive psychiatry was the first major step in trying to categorize and diagnose psychiatric disorders. In the United States, Adolph Meyer did much to achieve the understanding of the total personali-

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ty, and its development. However, the awareness and study of psychic forces and their vicissitudes commands a dominant position in our approach to psychiatry.

The development of dynamic psychiatry in the United States took time, and required the overcoming of considerable resistance, especially from medicine. It is not strange that it became more readily accepted in the related fields interested in understanding human conduct. Nowadays students more often than not are exposed to psychoanalysis for the first time in nonmedical college courses.

Psychoanalytic training was at first informal and highly individualized, but later became organized into Institutes for training of psychoanalysis. These Institutes became and today still are the major centers for training and teaching of psychoanalytic theory and techniques. Only much later was this training introduced into the Universities and Medical Schools. Medical school affiliations displeased Freud because he considered this would dilute his theories, and more important, because he felt psychoanalysis should not be bound to psychiatry. Instead he looked at it as a field of study as broad as psychology, because it encompassed both normal and abnormal mental functioning. Today in the United States, psychoanalysis has become closely affiliated with medicine and essentially through this alliance has spread to other fields.

Development in Louisiana

Let us now return to Louisiana and see how dynamic psychiatry evolved here. In the pre-World War II era there were a handful of psychiatrists who drove the wedge in introducing this approach in the State. These physicians were not trained as psychoanalysts but were familiar with dynamic concepts and introduced them in a small but definite way into the practice of psychiatry, medical schools, and social agencies. They attempted to understand the meaning of symptomatology in addition to diagnosing and empirically treating emotionally disturbed patients. It should also be said that descriptive and diagnostic psychiatry contributed much to the treatment and understanding of mentally ill patients. Unfortunately at times this approach is forgotten in an effort to free-float into people's minds. It would be accurate to say that psychoanalytic theories added to the existing knowledge of psychiatric patients. The humane relief of suffering with drugs, physical methods of treatment, hospitalization, and other measures has in no way been supplanted by the understanding of the human mind. It only makes us use these techniques more appropriately and go beyond these bounds when acute suffering subsides.

In 1942, Doctors Henry and Anna Colomb came to Louisiana from St. Elizabeth's Hospital in Washington, D. C., which was then and still is a great psychiatric center. In addition to treating patients, Doctor Henry Colomb has contributed much to such matters as helping write the Mental Health Act for the State of Louisiana, developing the School of Social Welfare and Department of Psychiatry at Louisiana State University. Doctor Anna Colomb was the first trained psychoanalyst to settle in Louisiana, having had her training in the Washington, D. C., area. She is a charter member of the Washington Psychoanalytic Society, one of the first American Psychoanalytic Societies to be formed. Her arrival on the scene was an impetus in the direction of educating physicians and others in psychoanalysis through the basic route of personal analysis. Through her knowledge of the ingredients necessary for properly training and teaching psychoanalysis, she did much spade work for the onset of formal psychoanalytic training. In 1944, Doctor Samuel Barkoff returned to New Orleans, having been trained and accredited as a psychoanalyst in the Washington-Baltimore Psychoanalytic Institute. The demand for his services immediately put a big load on his shoulders, and he, too, began psychoanalyzing patients, engaging in teaching at the medical schools, and consulting with social agencies.

Doctors Anna Colomb and Samuel Barkoff together with the assistance of Doctor

Ernest Hadley of Washington, D. C., and Doctor Lewis Hill of Baltimore, began classes in psychoanalytic training for psychiatrists in 1947. This was the beginning of formal training in psychoanalysis locally. In 1948, the New Orleans Psychoanalytic Study Group was recognized as a training facility of the American Psychoanalytic Association. The latter organization has since 1911 been the dominant scientific organization for exchange of psychoanalytic information and maintenance of high standards of training and practice of Freudian psychoanalysis. Considerable assistance for the local development was given by many eminent psychoanalysts including Doctors Therese Benedek, Edward Bibring, Maxwell Gitelson, Russell Anderson, Philip Wagner, Edith Weigert, Frieda Fromm-Reichmann, Emmy Sylvester, Bertram Lewin, Helen Ross, and Phyllis Greenacre, all of whom contributed heavily both in teaching and advice regarding the training of psychoanalysts. In 1949, Doctor Norman Rucker, who was trained as a psychoanalyst at Columbia University, became the third local member to contribute in a substantial way to this program.

The Washington-Baltimore Psychoanalytic Institute was the sponsoring training facility, and later the Washington Institute continued as it still does today in assisting what is now known as the New Orleans Psychoanalytic Training Center. Doctor Rex Buxton of Washington, with assistance from Doctors Robert Morse, Alexander Halperin, Leo Bartemeier, and Lucie Jessner, took over from the earlier advisers and teachers, giving heavily of themselves to make the Training Center succeed.

It is difficult to conceive how these individuals in New Orleans who were primarily engaged in the private practice of psychiatry and psychoanalysis could give so much time and energy to what is equivalent to a post-graduate university education for a doctoral degree. They had to personally psychoanalyze patients, teach classes in theory and technique, as well as supervise the candidates' treatment of patients. Without their efforts it is unlikely that we would have the Psychoanalytic Training Center here. Much like the early radiologists who were exposed to the ill effects of x-rays and radioactive materials, these early leaders in breaking through the social crust to analyze the intense primitive mental forces frequently were the recipients of unleashed psychic energies. It took a great deal out of them in terms of time and from their personal lives. It was only last year that Doctor Colomb could retire to her home and office and assume an inactive status as a teacher and leader because her active participation had been mandatory to the success of the Training Center. Doctor Barkoff, at the height of his career, died suddenly from an acute infectious disease. His untimely death was a great personal loss to many people throughout the state and elsewhere, and left a large gap in the training program.

Today the New Orleans Psychoanalytic Training Center continues actively in its role of training psychoanalysts, but even more important, as a force in disseminating dynamic psychiatry in areas far beyond its confines. In 1953, the New Orleans Psychoanalytic Society was organized and was approved as an affiliate society of the American Psychoanalytic Association in 1955. This is the organization which deals with the scientific aspects of psychoanalysis, and was formed as a joint organization with Louisiana and Texas psychoanalysts. The initial leadership of Drs. Anna Colomb and Samuel Barkoff was continued by Doctors Henry Miles, Theodore Watters, and Kenneth Beach.

Development at the Universities

While the stress to this point has been mostly on traditional psychoanalytic facilities, of equal importance locally has been the evolution of the departments of psychiatry in the Louisiana State University and Tulane University Medical Schools. In 1949, Doctor Robert Heath came to Tulane University Medical School to head the department of psychiatry and brought with him the concepts of dynamic

psychiatry. His training as a psychoanalyst, coupled with his other interests, has brought not only the teaching and research in the psychological aspects of dynamic psychiatry, but also in the anatomical-physiological basis for the sources of psychic forces. The students and residents in psychiatry at Tulane Medical School have been exposed to psychoanalytic psychiatry and have made it an integral part of their armamentarium. In 1951, Doctor Robert Matthews reorganized the department of psychiatry at Louisiana State University Medical School, and fostered the growth of dynamic psychiatry as well as teaching the total approach to psychiatry in general. He encouraged psychiatric residents to get personal analysis and go on with psychoanalytic training if their interests developed in that direction. He was later succeeded by Doctor Charles Watkins. Louisiana State University Medical School has been an important contributor to the growth of dynamic psychiatry.

The New Orleans Neuro-Psychiatric Society has been instrumental in gathering together the psychiatrists from Louisiana and Mississippi and fostering the dissemination of concepts of dynamic psychiatry. Much active work with public education, assistance with teaching and training, and encouraging modern legislation has been accomplished by the Louisiana Association for Mental Health under the direction of Doctor Lloyd Rowland.

Not only have the medical schools in the last decade been teaching psychoanalytic theory, but other departments of the universities throughout the state such as the Schools of Social Welfare, have been educating students in this theoretical framework as a part of their general background.

Spread Throughout State

The impact of these educational trends has been significant. Psychiatrists trained in Louisiana are now spreading throughout the state, and all through the South, treating patients with the use of these new techniques. There is no question but that people with mental illness in Louisiana today are receiving the finest psychiatric care available anywhere in the United States. This has had its impact logically enough, in the decrease in length of period of hospitalization of patients, and more solid and substantial recovery. While few patients can be treated by formal psychoanalysis, many are being treated with techniques developed from psychoanalytic theories. A psychiatric consultation today is not merely the rendering of an opinion but also brief treatment.

Another effect of this training is the dissemination of dynamic theories to people via the other routes mentioned. Social workers involved in the task of handling aid to dependent children, for instance, handle their problems with dynamic principles in mind. They not only evaluate financial needs, they are also better equipped to deal with the whole human being and family picture, and to understand some of the motivation for the behavior of their clients. It is customary for social workers and psychologists from all corners of the state to get together periodically to learn more about such theories and techniques so that they can bring back to their communities knowledge of practical use. Probation workers from the Juvenile Courts all over the state are exposed to these theories, and use them in coping with the thorny problems of juvenile delinquency. Institutes for teachers have for many years in this state included lectures on dynamic psychiatry so as to bring into the classroom an approach to understanding children. Sociological studies with teams of sociologists, anthropologists, psychiatrists, and psychologists are emerging in attempts to understanding social phenomenon. Nurses, clergymen, physicians, parents, and nursery school personnel are now sitting in on seminars or attending lectures soaking up this knowledge.

Mental Hygiene Clinics

An important aspect of the effect of dynamic psychiatry has been the development of mental hygiene clinics throughout the state. The first one was started out-

side of New Orleans in 1947 through the sponsorship of the New Orleans Guidance Center, State of Louisiana, and Junior League in Shreveport. This was a child guidance center, but its success led to the state starting and fully supporting mental hygiene clinics throughout the state for the treatment of out-patients. Without dynamic psychiatry, there would be few practical techniques in dealing with out-patients. The preventive aspect of this program is hard to fathom.

The formation of Acute Intensive Treatments units in the State Hospital system, and research programs has been stimulated by the impact of dynamic psychiatry. Patients are no longer looked at as alien individuals whom we cannot understand. While we do not always understand them, at least we have an approach in trying to work with such patients. We know if we translate their language, the fact that conflicts exist in their unconscious minds, and that there is a reason for their behavior, we stand a chance of getting access to them in a helpful way. There has been an evolution from chains to straight jackets, and prison security, to open ward management, and outpatient treatment of psychiatric patients.

Influence on Children

Children, too, have benefited from this development. Freud pointed out that events in childhood were of etiological significance in emotional illnesses. This started a movement towards better understanding child development and looking at the child not as an amorphous human being, but a human being with a mind similar to adults. The understanding of childhood neurosis and psychoses was the beginning of understanding of normal childhood development. We have a fairly good idea today as a result of this body of knowledge regarding matters such as why children have night terrors, refuse to go to school, are antisocial, cannot learn, are delinquent, or engage in habits that are repulsive or disturbing to adults. Unfortunately we cannot always cure these problems, but we have gone a long way in understanding them sufficiently so as to guide parents in helping their children grow up with healthy minds. Direct psychoanalysis of children, observations of children in various settings, infant studies, are some of the important ways we have of collecting pertinent data. The enigma of adolescence has long been a hiatus in the body of dynamic understanding. Today we are creeping up on this problem, despite vigorous efforts of the adolescent community to both set up decoys in our way and give us much help by presenting themselves. Children in Louisiana today are benefiting from this knowledge, much of it coming from studies now being made in the state. Parents turn to professional people so trained to assist them in guiding their children. The Guidance Center in New Orleans began with dynamic orientation towards childhood problems and through it, and the Institute of Mental Hygiene, has trained personnel and disseminated knowledge in a consulting capacity for many years.

Limitations

While one can get carried away and speak of psychoanalytic theory influencing the state in such a broad way, one should also note its limitations. Although most of the psychoanalytic theory has come from the psychoanalysis of patients, the treatment of patients with this technique leaves much to be desired. It is long, expensive, and available to very few people. Therapeutic results are ill defined, although unquestionably beneficial. Its main impact has come through application of this theoretical framework to modified techniques and to other fields. Yet the other fields are limited in developing this theory because it requires delving into the unconscious mind through psychoanalytic technique to expand the theory. The problem of human beings having to observe themselves presents a tremendous obstacle in the further development of dynamic theories. It is of critical importance to maintain facilities not only for the training of psychoanalysts, but also encouraging and supporting further

research into the ill defined areas. Fascinating research into the neuro-physiological basis for human behavior, psychological studies, infant studies, group observations, etc., all seem to be pushing toward the same goal—that is, to fathom the nature and functioning of the human mind. Louisiana has made tremendous strides in these areas, and will continue to because it not only has the professional people working on these problems, but also the support of the public in a most responsive way.

References

1. Brenner, C.: An Elementary Textbook of Psychoanalysis, New York, International Universities Press, 1955.

2. Freud, S.: An Autobiographical Study, Standard Edition of Complete Psychological Works of Sigmund Freud, Vol. 20, London, Hogarth Press, 1959.

3. Menninger, K.: A Psychiatrist's World, New York: Viking Press, 1959.

New Orleans Charity Hospital Training School for Nurses

The Administrators of the New Orleans Charity Hospital have made arrangements for giving a two years' course of training to women desirous of becoming professional nurses.

Those wishing to receive such a course of instruction must apply to the House Surgeon of the Charity Hospital, New Orleans.

The most desirable age for candidates is from twenty-five to thirty-five years of age; they must be in sound health, and must present, on application, a certificate from two responsible persons (one a physician) as to their good character and good health. Upon the recommendation of the House Surgeon of the Hospital and the approval of the administrators, they will be received for one month on probation; during this month they are boarded and lodged at the hospital, but receive no compensation.

* * * *

All nurses are required to be sober, honest, truthful, trustworthy, punctual, quiet, orderly, cleanly, neat, patient, kind and cheerful.

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Editorial

Radiation Hazards in Diagnostic Radiology

" * * * But in these cases
We still have judgment here; that we but teach
Bloody instructions, which, being taught, return
To plague the inventor;" *Macbeth, Act I, Sc. 6*

Such thoughts as these apply today when one considers radiation hazards in the field of diagnostic use of x-ray. This extraordinary device has been in use a little over sixty years.

Radiologists have acquired increasing knowledge as to the dangerous effects of radiation. As the result of researches in this and related fields, the dangers have been reduced and protection increased. Measures to this end have been recommended by successive groups and commissions, who have done research in this field since 1920. As increasing knowledge became available, a greater degree of security was attained.

Following the massive radiation effects of the atomic bomb, and later the effects produced by increasing use of radioactive isotopes, a widespread interest has developed on the part of hemotologists, biophysicists, and geneticists, as well as radiologists, on the remote effects of small doses of radiation, as well as on the immediate effects of massive doses of radiation.

From authorities set up to study radiation recommendations and proposed laws have come which would have far reaching effects. Deductions from experimental data by investigators in some fields have been expanded to imply a risk to the race which is not susceptible of proof. In various fields, contradictory observations have come from competent investigators.

Certain sections of the public have been misled as to the practical aspects of diagnostic radiation. Naturally, its uncertainties are principally concerned with the remote effect of small doses of radiation. From this field, which is amazingly exact in its technical aspects, and highly conjectural in its racial effects, have come certain statements, plans, and recommendations upon which most common sense radiologists can agree. It appears that the whole globe and its inhabitants are subject to constant radiation. This has its

origin in cosmic influences and this radiation is more noticeable at high altitudes, in the area of minerals, and in certain portions of the earth. Whatever damage this radiation may have on biologic processes through the eons of time cannot be scientifically stated, but at least we know we are still here.

As regards man made radiation, no statement as to a safe dose for the nation as a whole has been attempted, but it has been stated that for practical purposes, minimum possible exposure is always a desired goal. Maximum permissable limits have been set up by the National Committee on Radiation Protection and in diagnostic radiology the hazard is to limited portions of the body from small doses of repeated radiation. The effects thus produced are considered, on the one hand, as somatic, in which certain tissues exposed to the rays, undergo degenerative effects. The other aspect is the genetic hazard and the ability that x-ray has to produce mutation in the genes of the gonads which might extend to all posterity.

Elaborate mechanical devices and technical procedures have been devised to get the maximum diagnostic effect out of a minimum of radiation. The genetic effects are regarded as unimportant after the approximate age of thirty, and under thirty, the gonads should be protected whenever possible. Radiation of women in pregnancy should be avoided during the first three months and held to a minimum in urgent situations after that time. The somatic effects of radiation, after thirty, are not sufficient to constitute any deterrant to a necessary diagnostic procedure. This is provided that the technical aspects of radiological directions are properly followed.

In regard to proper procedure, certain matters are essential. It is stated that there are about two hundred thousand x-ray machines in use. Only four thousand of them are in the hands and under the direction of qualified radiologists. Those who operate these machines, not under radiologists, must be meticulous in their adherence to recommended practice. The machines should be inspected and calibrated. Those which are unfit and cannot be made safe should be discarded. These are matters to be carried out by the technical radiologists who are not physicians.

Radiation exposure in fluoroscopy should be reduced to the minimum. This is accomplished by adequate attention to technical details, by using radiography in place of fluoroscopy whenever possible, and the avoidance of routine fluoroscopy, particularly of the chest, where a specific indication is not present. It is generally stated that radiation exposure in a routine detailed fluoroscopic examination of the chest is a thousand times that which would exist in a radiographic examination. Adherence to this principle would eliminate much of the routine fluoroscopy of children and entirely eliminate the use of fluoroscopic machines for the fitting of shoes for which there is no sound reason.

In substance, therefore, the radiologist and the physician using x-ray machines should follow a procedure which is technically and radiologically correct, and the public should understand that diagnostic procedures under these conditions which are necessary are not to be withheld because of a theoretical radiation hazard.

When the x-ray was discovered by Roentgen great enthusiasm was tempered by considerable anxiety. "X-ray proof clothing was advertised. A London paper advised against revolting indecency, and in New Jersey, a bill tried to ban x-rays in opera glasses." In view of such exhibitions of faulty perspective and loss of sense of proportion, sixty years ago, let us not move in a similar direction and become panicky about minimal doses of x-ray radiation where we have some qualitative experience but very little quantitative knowledge.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

REPORT OF THE PRESIDENT

1961—A Year of Challenge
And the Year of Crucial Decision

Each new year brings the opportunity to survey our past activities and to plan such revisions and expansions as seem indicated. It seems to me that during the past year we have had more challenge in our lives, and more to challenge our future operations than in any other recent year.

On the national level we have seen both major political parties endorse platforms which differ chiefly in the degree of socialization advocated. We have witnessed an indecisive election which reflected a large crossing over of party lines. We have witnessed a new administration coming into office, in which it seems that practically every appointment, every pronouncement, every measure of proposed legislation, and every device known to influence the minds and actions of men were being applied toward a rapid and complete socialization of our entire economy. No longer are we asked if this is what we want, or if we feel that the action is good for our Country. There has been a thoroughly organized and expertly manipulated program for convincing the American people that they will be given what they need, from a beneficent federal government, without concern to them about the cost, and without their apparent recognition of the inevitable resulting collapse of our economy. The individual examples of this are too numerous and too widely known to require tabulation here.

On the other hand, the very close margins by which these actions have gained endorsement, and the extent of outspoken concern for the continued well being of our Country, with its free institutions, its free people, its private enterprise history of attaining its present position of greatness, and the concern of the thinking segment of the population, present a great challenge. It appears that the crucial decision is now before us. Either America will permit itself to fall rapidly and completely into the hands of national and international governing groups which are completely socialistic in nature, or we will rise to the occasion and sustain and reassert the principles of state and local regulation of most phases of our lives.

It appears now that the supporting pressures are about equal on the opposing sides, hence the outcome would seem to depend on the extent of activity to determine the choice of our future. Therein lies the crux of the matter. What are you going to do about it personally, professionally, politically, and in relation to the general public?

As a physician, you enjoy a large measure of confidence of the people who live in your community. Even if medical groups have been made the whipping boy, collectively, in recent years, the people love us individually and have confidence in our leadership. There is a greater desire on the part of our people that doctors provide leadership in all their community projects than has ever before been expressed. Though they may not realize the impossibility on your part, of finding time and being able to enter into all the activities, and yet be found in your office when needed, as well as keeping abreast of the progress of modern medicine, they want you, and will listen to you. Therein lies your opportunity. Go to your people and tell them frankly and simply what you think is in store if we continue to spend billions on foreign aid, continue to increase the national debt, (the interest on which is calculated to be $17,000.00 per minute), continue to increase taxes, give more and more of their earnings to the federal government, and seek to obtain more and greater benefits from federal agencies, whether needed, deserved, or even wanted.

These expressions constitute the crystalized impression that comes from my year of labor as your president. It is the burden of my soul and the topic which I feel should have your most serious study.

It goes without saying that the year has been full of meetings, conferences and travel. Attending the AMA meetings in Miami and in Washington were highly informative experiences. The Public Relations Institute of the AMA in Chicago was enlightening, as were the special committee meetings and conferences in which I was privileged to represent our State Society. The big impression that came from every such meeting was a recognition of the problems facing our people and our profession, the fact that many of those involved, do not as yet show any recognition of this impending socialization, and the search for ways and means by which to enlist and interest others of our group to take up part of the program and help in the task.

After working long and earnestly in seeking to find ways and means to adequately provide for the assistance to the aging, where needed, through the cooperative efforts of many groups and many people, in the Louisiana State Confer-

ence on Aging, it was a severe shock to attend the White House Conference on Aging. The Delegates went there, some 2800, as serious minded men and women earnestly seeking the solution to a real problem. Many of us came away disillusioned by the smooth manipulations of politicians, social workers, representatives of labor organizations, federal employees, and above all the biased reporting of the "liberal" press, all with the same propaganda theme—"expansion of Social Security" to meet the needs of all segments of the population.

The Kerr-Mills Law passed by the last session of Congress has been implemented in eight states and is in the process of being implemented in 36 others. In a few other states the needed laws are in preparation or are under consideration. It appears that the program can be put in operation in Louisiana within a few months if legislation providing for a legal body to set standards for hospitals can be passed. With the extensive charity hospital system and the existing Welfare Department, it appears that the supplementary grants in aid to the states provided for by that legislation will enable Louisiana to provide amply for the needy aged.

Within our profession, our greatest problem is the failure on the part of so many physicians to realize the extensive efforts being put forth by our fellow practitioners who carry on the work of our State Society and the AMA. One good way to come to know these men and their work toward the preservation of American living at its best, is to attend the meetings of the AMA, its House of Delegates, its regional and sectional meetings, and to read the reports of its activities and services performed, in its publications. Through the years this has been the most stimulating experience of my practice and I cannot see how we can be really effective in our efforts unless we are fully cooperative with our fellow workers. It hurts deeply to hear the criticism of these workers by people who have not attended the meetings and been a part of the working team.

Other pressing and as yet unsolved problems of great importance to our profession include legislative activities at both the state and the national levels, improved public relations through further improving our working relationships with the news media, the relationships with the fields of insurance, law, nursing, hospitals, our office personnel, mental health both in and out of institutions, and the relationships of the private patient and the physician. This latter field constitutes the keystone of the whole system of the private practice of medicine. Many of these will be covered through committee reports being provided you.

Several committees have been earnestly engaged during the past year in efforts to promote better relationships with these and other groups. I hereby express my sincere gratitude to all of them for their diligence and their accomplishments. Where they report their work unfinished, I would certainly feel that a continuance of such committees would be in the best interest of the profession.

There are other committees which for years have been active in the preservation of that which we know to be good for our people, composed of men who devote long periods of their time quite unselfishly to these duties. They are often the unsung heroes of difficult encounters. I want to thank them collectively, in the name of the entire Society. I have an abiding gratitude for their performance.

The work of the Society has been most efficiently and promptly handled through the office of Dr. Cole and his associates. His pleasing personality, his calm efficiency, and his keen insight and good judgment have served the Society well at the national level as well as within our State. I shall always be grateful to him for his advice and counsel.

With the year drawing to a close, I must report to you that I have found in our membership as fine and dedicated group of men and women as could be found anywhere. I am grateful to all of them for the many kindnesses extended to me, and for the opportunity I have had of serving them. I hope to reflect that gratitude by my continued efforts to promote the best interests of our people and our profession.

O. B. OWENS, M. D. President

GOVERNOR DAVIS TO SPONSOR KERR-MILLS LEGISLATION

Governor Jimmie H. Davis reported in a statewide radio and television broadcast April 19 that legislation would be introduced at the May fiscal session of the Legislature to provide for the medical and health requirements of needy aged in Louisiana. The program will mean more liberal hospitalization benefits for the aged and increases in the amount of drug care for those with acute illnesses. If the Legislature acts favorably on Governor Davis' proposal, the Kerr-Mills law will be implemented in Louisiana.

LOUISIANA TRADE, BUSINESS GROUPS OPPOSE SS EXPANSION

A group of 20 Louisiana business and trade associations have written the state's congressional delegation protesting proposed increases in Social Security taxes and plans to increase the scope of the Social Security program. Specifically, the group opposed H.R. 6027 which would increase Social Security taxes by $500 million beginning January 1. In the letter to Louisiana congressmen and senators, the group said there are rumors that attempts will be made also to tack on medical care to this bill without the usual prior public hearings. They pointed out that since 1954,

every increase in Social Security tax has resulted in a greater departure from a social insurance concept and toward a federal welfare program. Among the groups endorsing the letter are:

Automotive Wholesalers Association of Louisiana, Chamber of Commerce of the New Orleans Area, Construction Industry Association of New Orleans, Deep South Farm Equipment Association, Louisiana Automobile Dealers Association, Inc., Louisiana Building Material Dealers Association, Louisiana Delta Council, Louisiana Manufacturers Association, Louisiana Oil Marketers Association, Louisiana Wholesale Grocers Association, Louisiana Wine and Spirits Foundation, Mid-Continent Oil and Gas Association (La.-Ark. Division), New Orleans Master Bakers' Association, Inc., Shreveport Chamber of Commerce, Shreveport Wholesale Credit Men's Association, Southern Pine Industry Committee and the Tri-State Bakers' Association.

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Jefferson	Third Thursday of every month	
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

PALM READING MAY OFFER CLUE TO CONGENITAL HEART DISEASE

The pattern of lines in the palm of the hand may offer a clue to the presence of congenital heart disease, an article in the April 8 Journal of the American Medical Association said.

A correlation between the location of some lines and congenital heart defects was reported by Drs. Alfred R. Hale, John H. Phillips, and George E. Burch, Tulane University School of Medicine, New Orleans.

The researchers drew their conclusion from a comparison of the palm prints of 157 patients suffering congenital ailments and 143 patients who had acquired forms of heart disease.

The intricate patterns on the palm appear between the fourth and sixth month following conception, the physicians explained. Defects in development of the unborn child during this time may influence the lines on the palm and thus reflect developmental disturbances operative during this period, they said.

Except for growth, they said, these configurations once established never change throughout a person's life.

The authors pointed out that a relationship between particular palm line characteristics and specific types of congenital heart defects "awaits the collection of a large series of proved cases."

A.M.A. AND CHEST PHYSICIANS PLAN JOINT SESSION IN N. Y.

A full day scientific meeting, sponsored jointly by the American Medical Association and the American College of Chest Physicians, will be one of the outstanding features at the 110th annual A.M.A. convention in New York City, June 25-30.

Dr. Coleman B. Rabin, New York, secretary of the A.M.A. Section on Diseases of the Chest, planned the program for this joint meeting, which will be held on Monday, June 26. Chairman of the morning session will be Dr. Herman J. Moersch, Chicago, chairman of the A.M.A. Section on Diseases of the Chest. Chairman of the afternoon session will be Dr. Hollis E. Johnson, Nashville, Tenn., president-elect of the American College of Chest Physicians.

The joint program, which was arranged so as to be of interest to specialists and general practitioners alike, will follow the scientific assembly of the American College of Chest Physicians which is holding its 27th annual meeting in New

York, June 22-26, just prior to the A.M.A. session.

The program, first ever sponsored jointly by the two medical organizations, will consist of symposiums, panel discussions, the reading of scientific papers, roundtable luncheon meetings, and fireside conferences.

Subjects to be covered will include new approaches in the treatment of various forms of heart disease; tuberculosis in general hospitals; steroid treatment in lung diseases; modern diagnostic measures in heart disease; pulmonary diseases and the best forms of treatment; asthma; chronic bronchitis and emphysema; heart catheterization; recent advances in the treatment of cardiopulmonary diseases; modern treatment of angina due to stress or effort, and x-ray findings in heart and chest diseases.

Moderators of the symposium and panels will be Drs. Arthur M. Master, New York; Sol Katz, Washington, D. C., and George C. Griffith, Los Angeles.

Other physicians who will appear on the joint program are:

Felix Wroblewski, Henry Williams, Jr., Alvan L. Barach, Daniel Lukas, and Isadore Rosenfeld, all of New York; William Hollander, Boston; Eliot Corday, Beverly Hills; Howard Burchell and Norman Hepper, Rochester, Minn.; Irving J. Selikoff, Paterson, N. J.; Clarence S. Thomas, Nashville; W. Proctor Harvey, Washington, D. C., and George E. Burch, New Orleans.

One of the scientific papers will deal with the results of operative and high voltage radiation in the treatment of 628 cases of cancer of the lung. It will be read by Dr. David B. Boyd of Boston.

Other scientific papers will be delivered by Drs. Richard Overholt, Boston; John F. Briggs, St. Paul; George L. Waldbott, Detroit; Gustav J. Beck and Hylan A. Bickerman of New York, and Krishna Nanda, New Delhi.

Fireside conferences, where physicians discuss medical problems of the chest informally, will be held on Monday, June 26, as part of the joint session. These fireside conferences, always a popular feature at the annual meetings of the American College of Chest Physicians, will be built around 36 roundtables where attending physicians, along with prominent scientists, will discuss recent advances in diagnosis and treatment in all phases of heart-lung diseases.

In addition to the formal scientific session, the College will sponsor a new exhibit, entitled "Physiologic and Clinical Testing of Cardiac Function." This outstanding scientific exhibit, approved by the A.M.A. Council on Scientific Assembly, will be shown at New York's Coliseum beginning on Sunday afternoon, June 25.

SECTION OF OPHTHALMOLOGY AND OTOLARYNGOLOGY SOUTHERN MEDICAL ASSOCIATION

The section of Ophthalmology and Otolaryngology of the Southern Medical Association announces that they are now accepting papers by physicians of either specialty, living in the area of the Southern Medical Association for consideration for presentation at the next annual meeting to be held in Dallas, Texas, from November 6 to 9, 1961.

The paper or an abstract of the paper may be sent directly to the Secretary, Dr. Albert C. Esposito, Suite 1212, First Huntington National Bank Building, Huntington, West Virginia, as soon as possible.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

Applications for certification in the American Board of Obstetrics and Gynecology, new and reopened, for the 1962 Part 1 Examinations are now being accepted. All candidates are urged to make such application at the earliest possible date. The deadline date for receipt of applications is August the first, 1961. **No applications can be accepted after that date.**

Candidates for admission to the Examinations are required to submit with their application, a plain typewritten list of all patients admitted to the hospitals where they practice, for the year preceeding their application, or the year prior to their request for reopening of their application. This information is to be attested to by the Record Librarian of the hospital or hospitals and submitted on paper 8½ x 11". Necessary details to be contained in the list of admissions is outlined in the Bulletin and must be followed closely.

Current Bulletins outlining present requirements may be obtained by writing to the Secretary's office, 2105 Adelbert Road, Cleveland 6, Ohio.

All Diplomates of this Board are requested to inform the Office of the Secretary of a change in address. Your cooperation will be appreciated.

BOOK REVIEWS

Childbearing Before and After Thirty-Five; Biologic and Social Implications; by Adrien Bleyer, M. D., Vantage Press, Inc., New York, New York, 1959, pp. 119. Price $2.95.

This 119 page volume contains 17 tables and 14 charts, some of which are ectopic.

In a very readable and entertaining manner, the author presents facts which indicate that young mothers bear the best babies; consequently, he advises early childbearing. Even though the risk of a defective baby is high after age thirty-five, it still does not reach the percentage that would cause it to out-weigh the advantages.

Inasmuch as this book would certainly discourage any prospective mother over thirty-five years of age, rarely would we recommend that such a person read it. For others who are and should be interested in the subject, this volume is recommended.

WOODARD D. BEACHAM, M. D.

Aids to Gynecology; by William Ralph Winterton, 12th ed., Williams & Wilkins, 1960, pp. 214. Price $3.00.

This small text should be an aid to students in Gynecology, but as intended, certainly should not replace the more detailed larger texts.

The chapter devoted to pelvic infections is rather abbreviated as well as that on granulomatous conditions of the external genitalia.

The importance of relating diseases of the pelvic organs to other organ systems and of examining the entire patient by thorough history and physical was not emphasized.

The lack of statistics was pleasing and the illustrations adequate. The style was smooth and the organization made reading enjoyable.

GEORGE BALL, M. D.

What Price Medical Care?; by Sir Earle Page, Lippincott, 1960, pp. 160. Price $3.50.

Sir Earle Page was the originator of the Australian Health Plan. This plan contains an arrangement by which government aid is provided to strengthen voluntary medical insurance. This book devotes much space to the author's opinion of the similarity of Australia to the United States. This comparison is made in order to point out that a plan similar to the Australian Health Plan could work in the United States. Too little space is given to a factual report of the Australian Health Plan. General terms are used entirely. Very few specific points are taken up and adequately discussed.

The writing style lends itself to quick reading. In light of the present trend toward governmental support to the care of the patient, the book is worth reading. Some insight can be gained on the steps taken by other countries in meeting the prolbems of the increasing cost of medical treatment. However, much is left unsaid in this short book.

THOMAS D. DARBY, M. D.

Sight: A Handbook for Laymen; by Roy O. Scholz, M. D., Doubleday and Co. Inc., Garden City, New York, pp. 166, 13 illustrations. Price $3.50.

Dr. Scholz has prepared a handbook which will be of considerable value to both the ophthalmologist and the intelligent layman who is concerned with understanding ocular problems. Dr. Scholz has written the book in a brief but clear style and discusses structure, function, malfunctions and diseases of the eye. He discusses principles of treatment but makes adequate allowances for the various acceptable variations in the methods of care of ocular problems. He briefly summarizes the prognoses for these various problems.

The busy ophthalmologist will find this a handy reference to save his time in dealing with intelligent patients and their relatives for they will be able to obtain adequate information on their ocular problems from this book. However, some inquisitive individuals will find it a stimulus to seek further information.

JAMES H. ALLEN, M. D.

PUBLICATIONS RECEIVED

Doubleday & Co., Inc., Garden City, N. Y.: Childbirth with Hypnosis, by William S. Kroger, M. D., edited by Jules Steinberg; Lose Weight and Live, by Robert P. Goldman with a foreword by Dr. Harold Willard; Mirage of Health, by Rene Dubos; The Changing Years, by Madeline Gray; The Family Handbook of Home Nursing & Medical Care, by I. J. Rossman, M. D. and Doris R. Schwartz, R. N.

Paul B. Hoeber, Inc., New York, N. Y.: Clinical Obstetrics and Gynecology, Volume 4, Number 1: Obstetric Anesthesia and Analgesia, edited by Robert A. Hingson, M. D.; Vaginal Surgery, edited by Abraham F. Lash, M. D.

Lange Medical Publicataions, Los Altos, California: Handbook of Pediatrics (4th Edition), by Henry K. Silver, M. D., C. Henry Kempe, M. D. and Henry B. Bruyn, M. D.; Handbook of Surgery, edited by John L. Wilson, M. D. and Joseph L. McDonald, M. D.

C. V. Mosby Co., St. Louis, Mo.: Management of Hypertensive Diseases, by Joseph C. Edwards, M. D.

W. B. Saunders Company, Philadelphia, Pa.: Medical Almanac 1961/1962, compiled by Peter S. Nagan, A. B., M. A., M. S.

Charles C Thomas, Publisher, Springfield, Ill.: Strangulation Obstruction, by Isidore Cohn, Jr., M. D., with a preface by I. S. Ravdin, M. D. and a foreword by James D. Rives, M. D.

Winslow Homer "THE HERRING NET" Art Institute of Chicago.



STRAIN

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YOUR RESULTS: With pain relieved, stiffness gone, your patient is soon restored to full activity—often in days instead of weeks.

> Kestler reports in controlled study: *Average time for restoring patients to full activity: with Soma, 11.5 days; without Soma, 41 days.* (*J.A.M.A. Vol. 172, No. 18, April 30, 1960.*)

Soma is notably safe. Side effects are rare. Drowsiness may occur, but usually only in higher dosages. Soma is available in 350 mg. tablets. **USUAL DOSAGE:** 1 **TABLET Q.I.D.**

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"Benign" glycosuria can be the first sign of impending diabetes when observed in predisposed persons during the "silent" period preceding frank diabetes. In one series of 1,140 diabetics, 96 had been informed of "benign" glycosuria prior to development of diabetes.*
If these patients had periodically tested their urine after the first finding of glycosuria, many of them might have detected recurrence of glycosuria—thus permitting earlier diagnosis of diabetes by the physician and possible avoidance of degenerative complications. Slight glycosuria, even when only occasional, should always arouse suspicion of latent diabetes.
*Pomeranze, J.: J. New York M. Coll. 1:32, 1959.
Periodic urine-sugar testing at home is an integral part of the follow-up of "benign" glycosuria. Its practicality is increased when the patient charts his findings on the CLINITEST® Graphic Analysis Record. This chart frees the physician from dependence on the patient's memory and enables him to follow at a glance the trend and degree of any glycosuria.
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1. Barden, F. W., et al.: J. Maine M. A. 46:99, 1955.
2. Ford, R. A., and Blanchard, K.: Journal-Lancet 78:185, 1958.

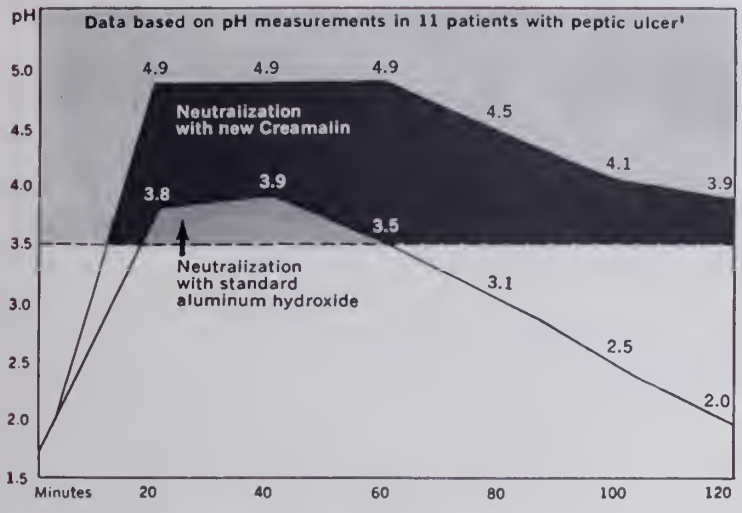
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1. Data in the files of the Department of Medical Research, Winthrop Laboratories. 2. Hinkel, E. T., Jr.; Fisher, M. P., and Tainter, M. L.: J. Am. Pharm. A. (Scient. Ed.) 48:384, July, 1959.

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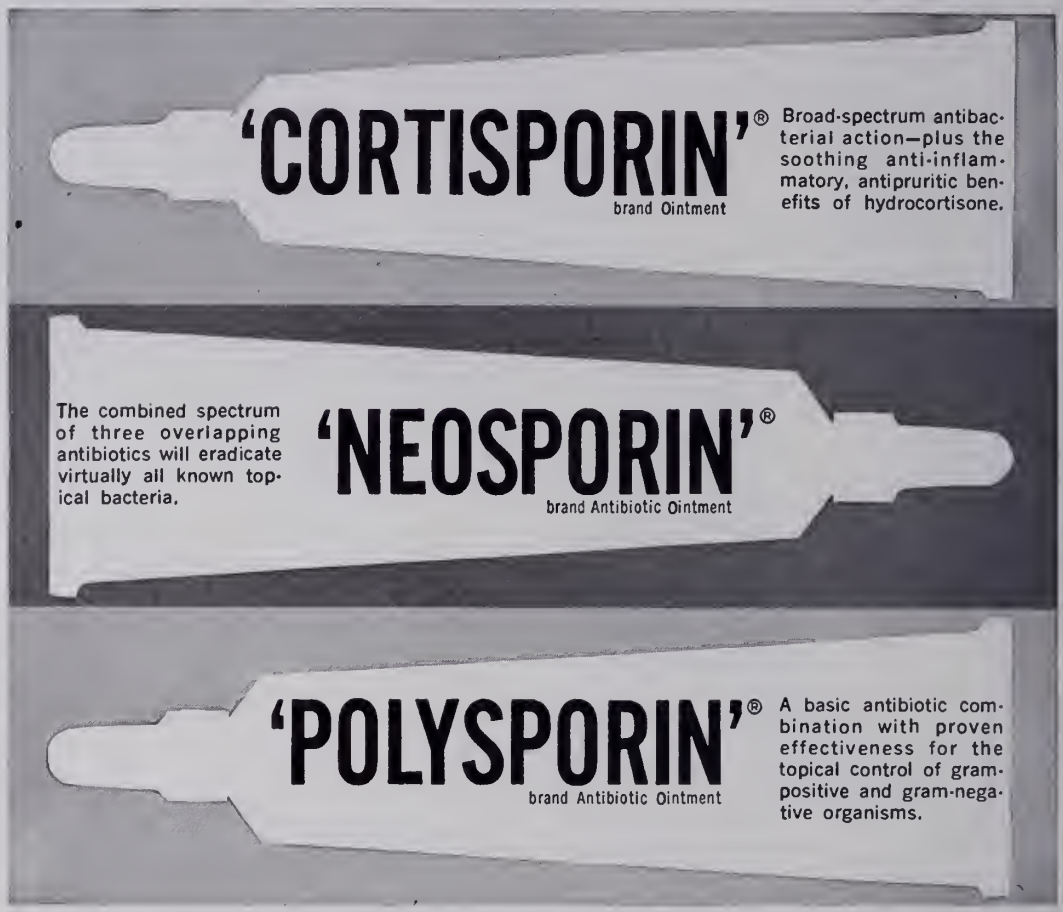
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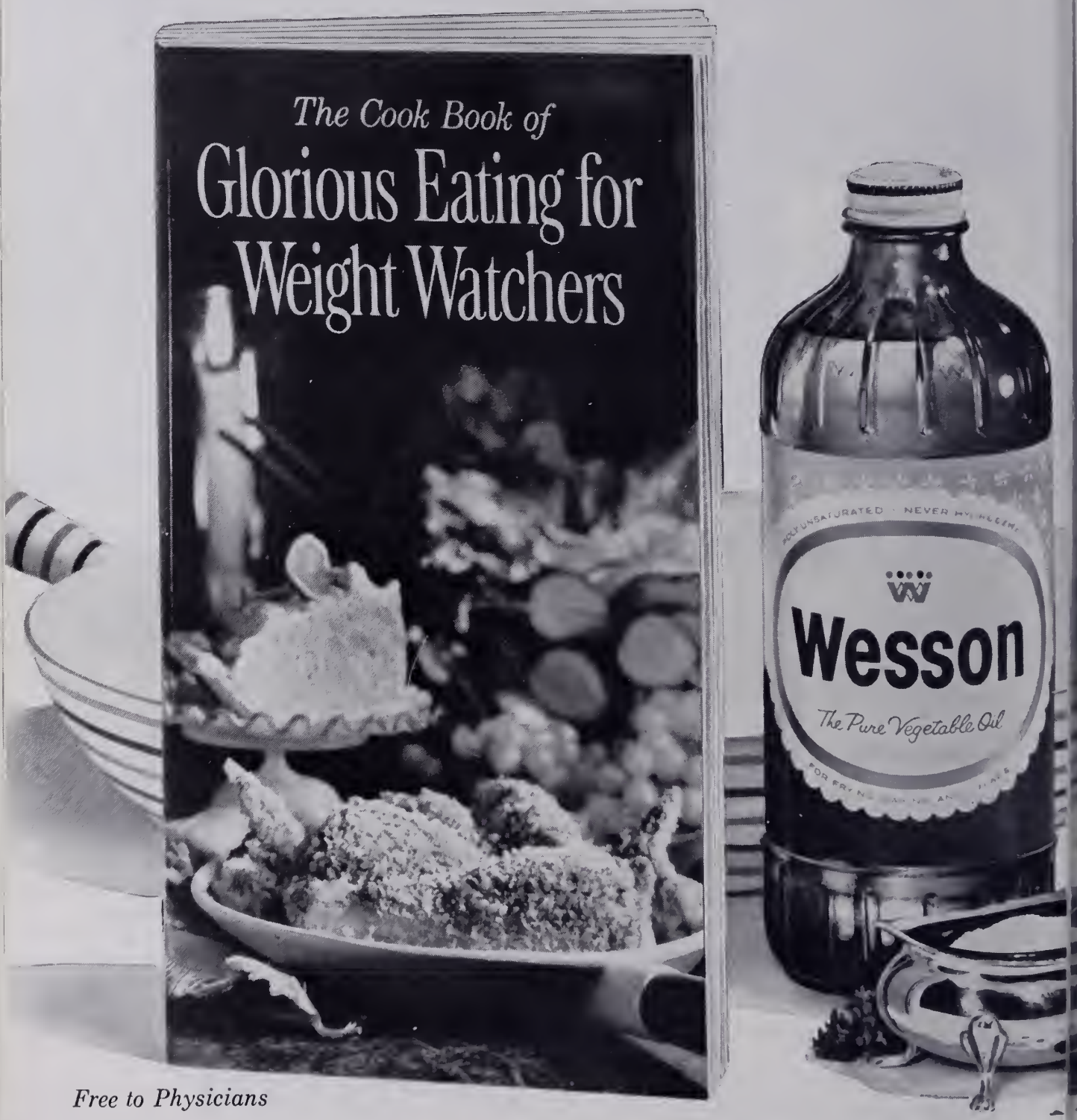
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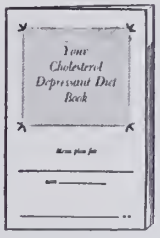
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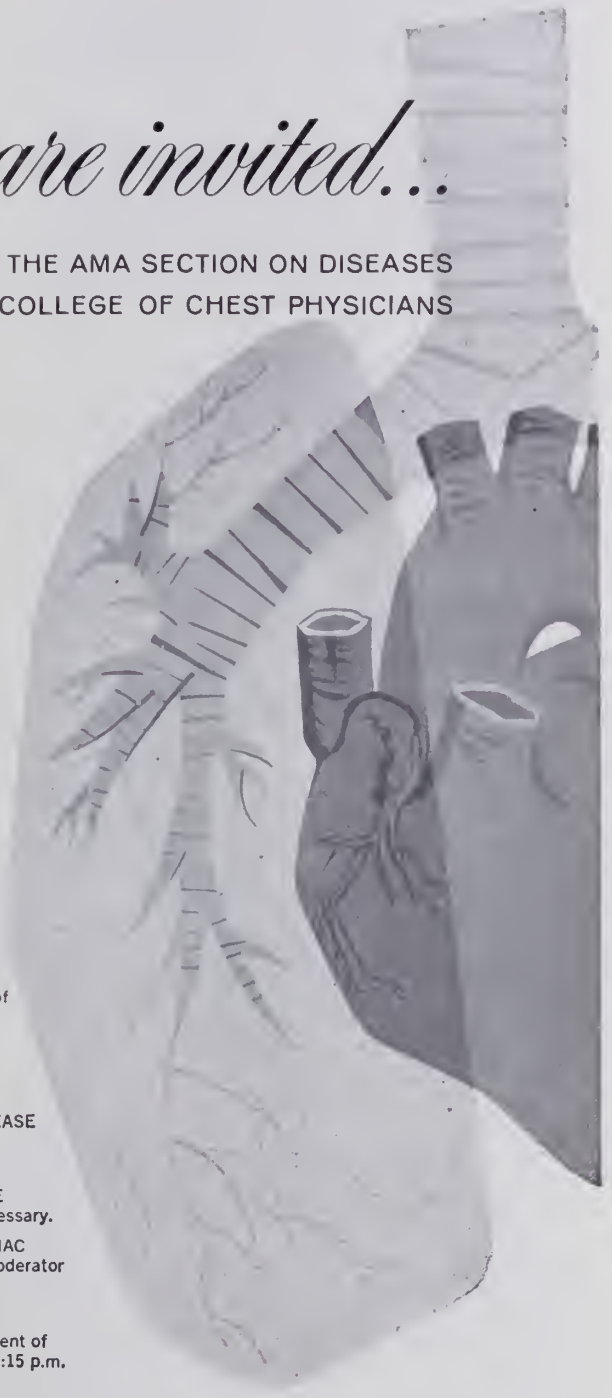
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Program Synopsis—Monday, June 26 only

Presiding: Dr. Herman Moersch, Rochester, Minnesota
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Symposium: NEW APPROACHES TO ACQUIRED HEART DISEASE—Dr. Arthur M. Master, New York, Moderator. Coliseum, 9:15 a.m.

Panel: STEROID TREATMENT IN PULMONARY DISEASE
Dr. Sol Katz, Washington, D. C., Moderator
Coliseum, 10:45 a.m.

Luncheons: SIX SEPARATE LUNCHEONS—SIX SEPARATE TOPICS. Park-Sheraton Hotel. Reservations necessary.

Symposium: MODERN DIAGNOSTIC MEASURES IN CARDIAC DISEASE—Dr. George C. Griffith, Los Angeles, Moderator
Coliseum, 2:15 p.m.

Conferences: 36 tables, each headed by a prominent chest physician, discussing recent advances in treatment of cardiopulmonary diseases. Commodore Hotel, 8:15 p.m.

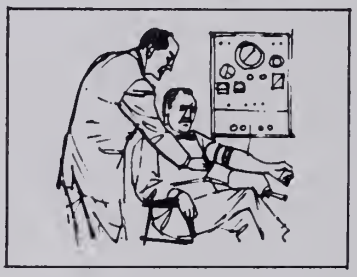
See Convention Number, J.A.M.A., April 29, for complete scientific program, advance reservation, hotel housing applications and luncheon reservation form.

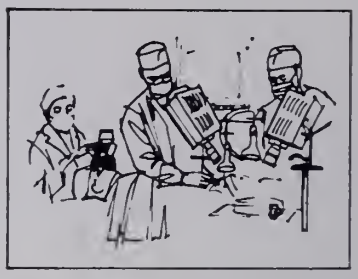
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No absolute contraindications to the use of Dornwal are known. There have been no reports or evidence of habituation, addiction or drug tolerance in animal or clinical studies. Dornwal is relatively free from untoward effects when administered at recommended dosages.

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"nutrition...present as a modifying or complicating factor in nearly every illness or disease state"[1]

1. Youmans, J. B.: Am. J. Med. 25:659 (Nov.) 1958

cardiac diseases "Who can say, for example, whether the patient chronically ill with myocardial failure may not have a poorer myocardium because of a moderate deficiency in the vitamin B-complex? Something is known of the relationship of vitamin C to the intercellular ground substance and repair of tissues. One may speculate upon the effects of a deficiency of this vitamin, short of scurvy, upon the tissues in chronic disease."[2] 2. Kampmeier, R. H.: Am. J. Med. 25:662 (Nov.) 1958

arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]

3. Fernandez Herlihy, L.: Lahey Clinic Bull. 11:12 (July-Sept.) 1958

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition. National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

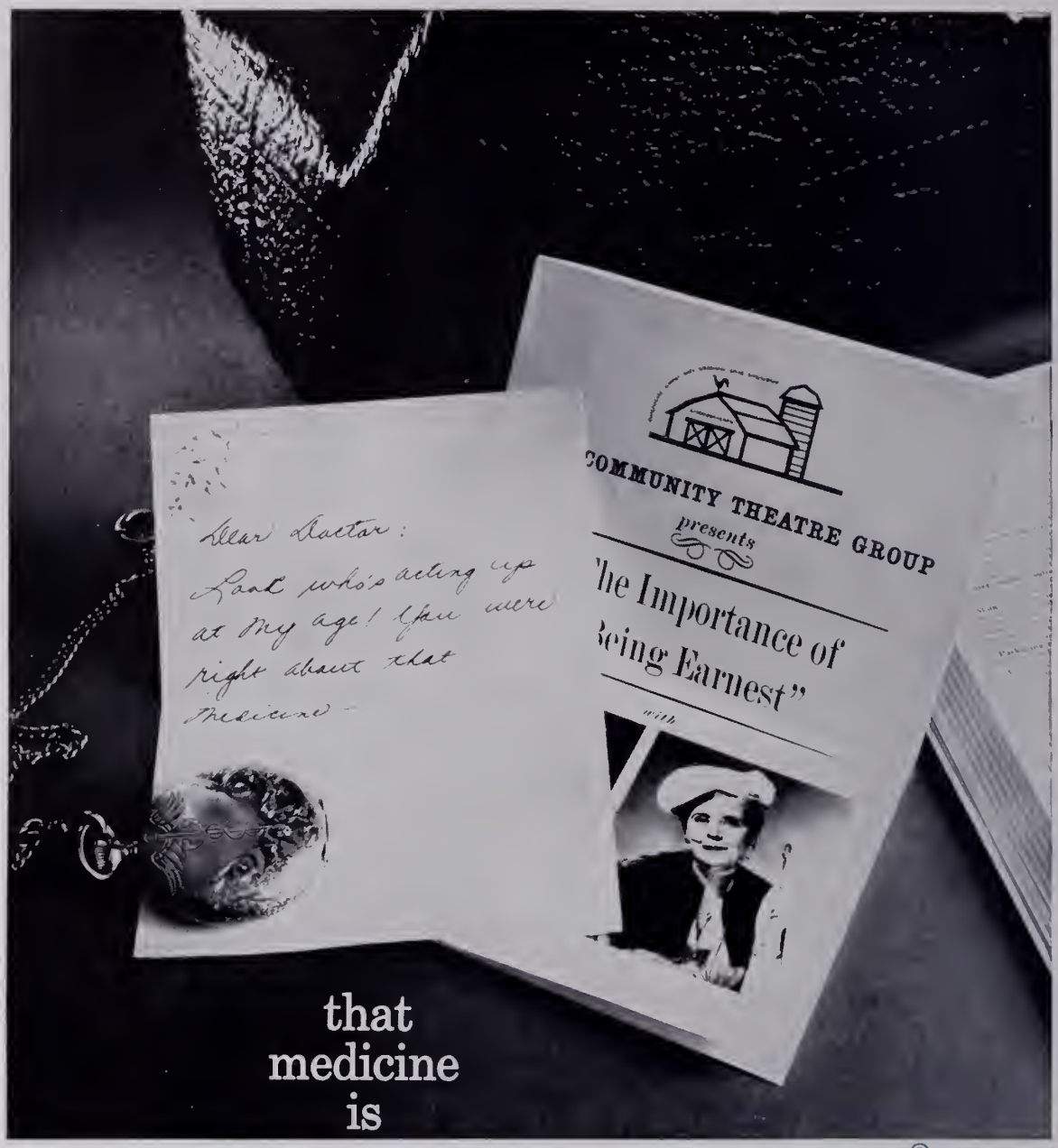
degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser, W. and Fong, T. C. C. in Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G. A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec. 10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]

8. Duncan, G. G.: Diseases of Metabolism, 4th edition, W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

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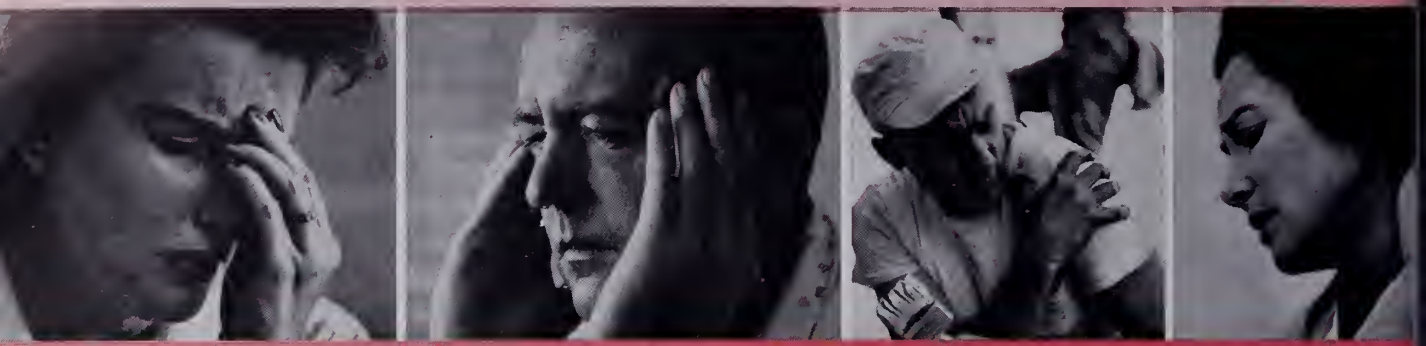
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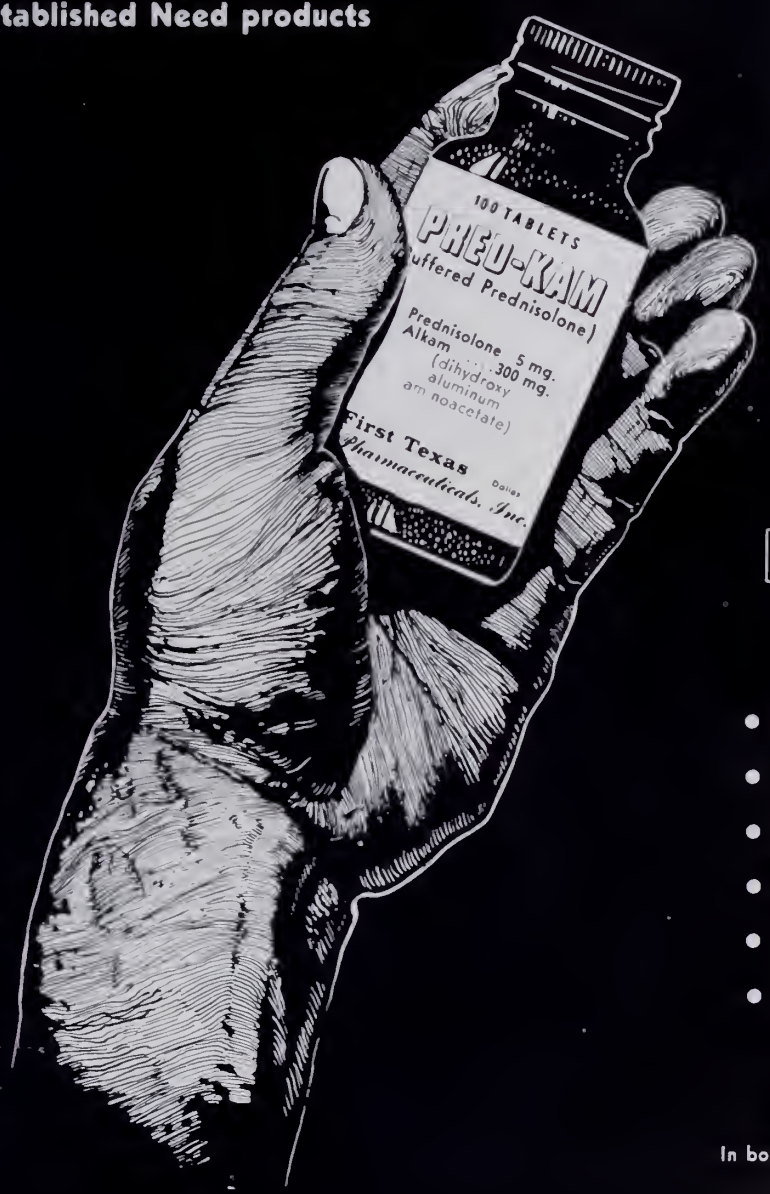
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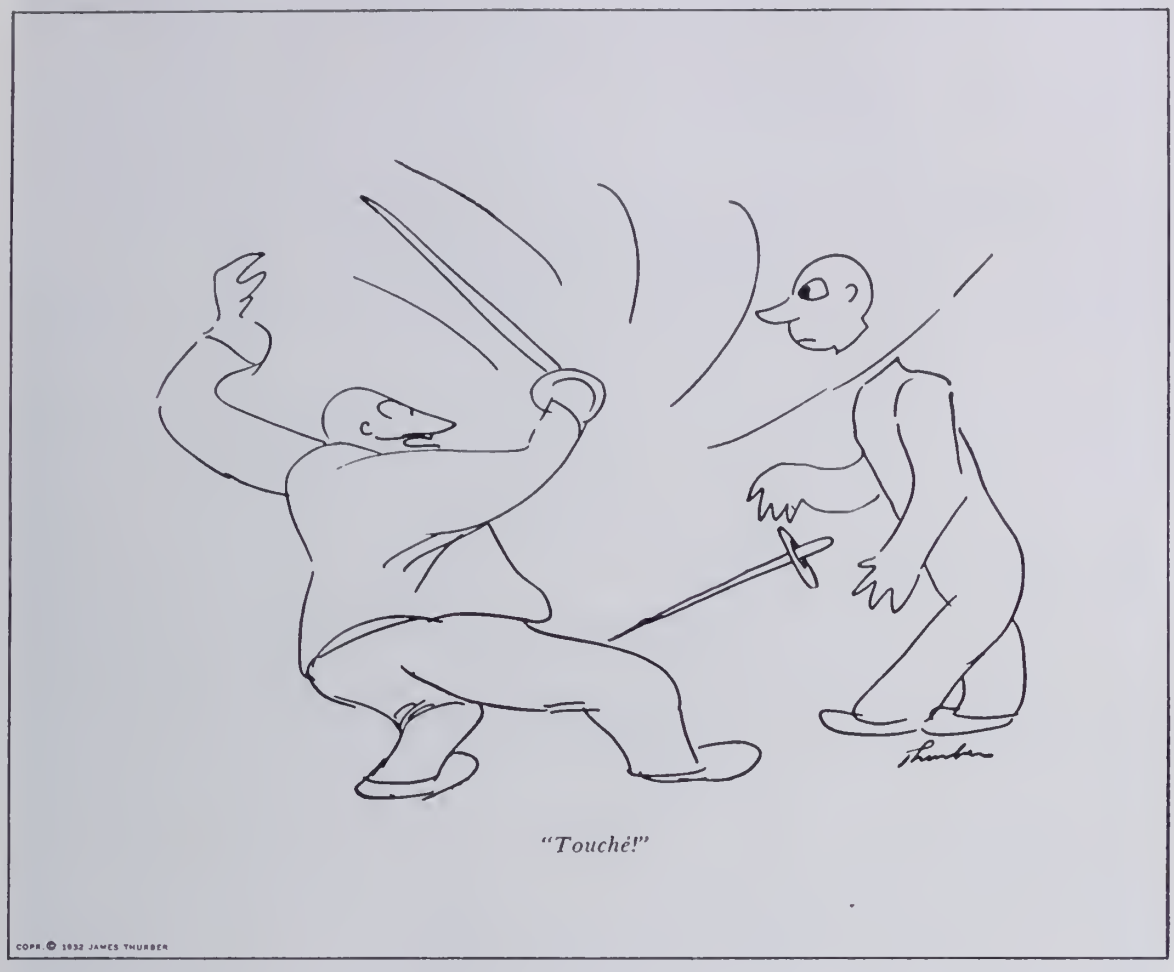
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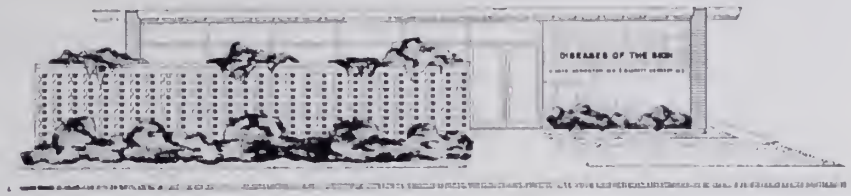
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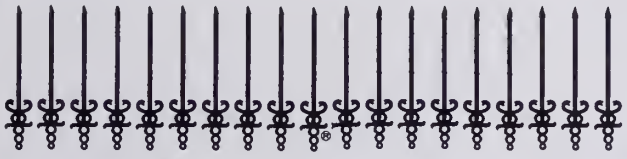
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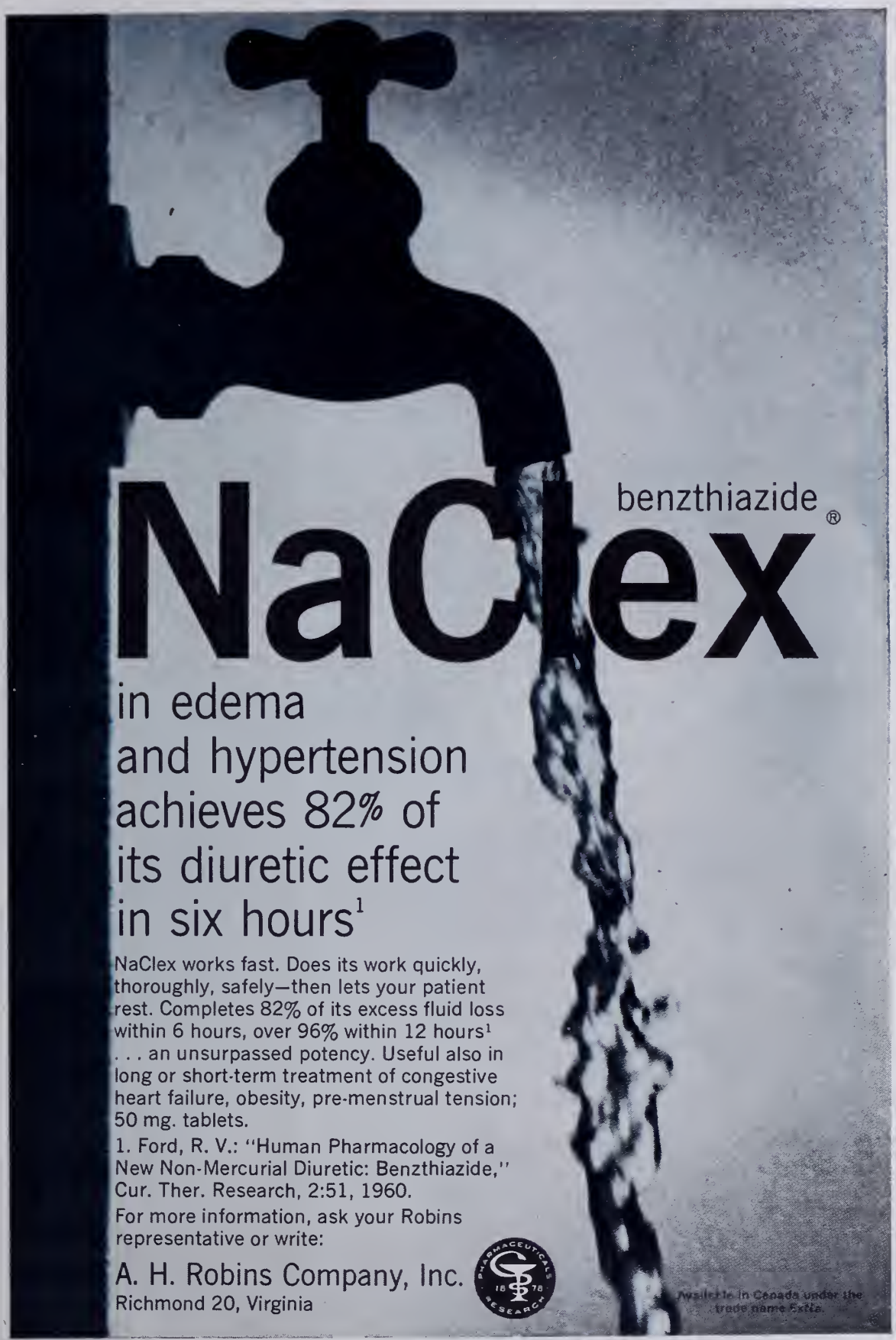
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1. Ford, R. V.: "Human Pharmacology of a New Non-Mercurial Diuretic: Benzthiazide," Cur. Ther. Research, 2:51, 1960.
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(1) Carter, S.: M. Clin. North America 37:315, 1953.
(2) Maltby, G. L.: J. Maine M. A. 48:257, 1957.
(3) Crawley, J. W.: M. Clin. North America 42:317, 1958.

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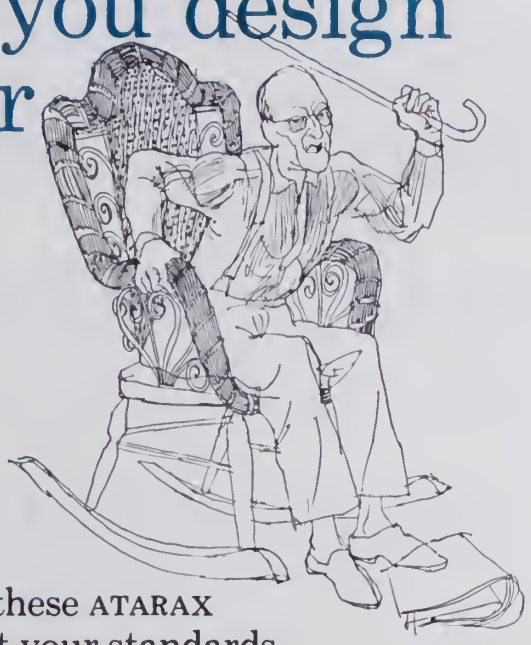
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References: 1. Smigel, J. O., *et al.:* J. Am. Geriatrics Soc. *7*:61 (Jan.) 1959. 2. Shalowitz, M.: Geriatrics *11*:312 (July) 1956.

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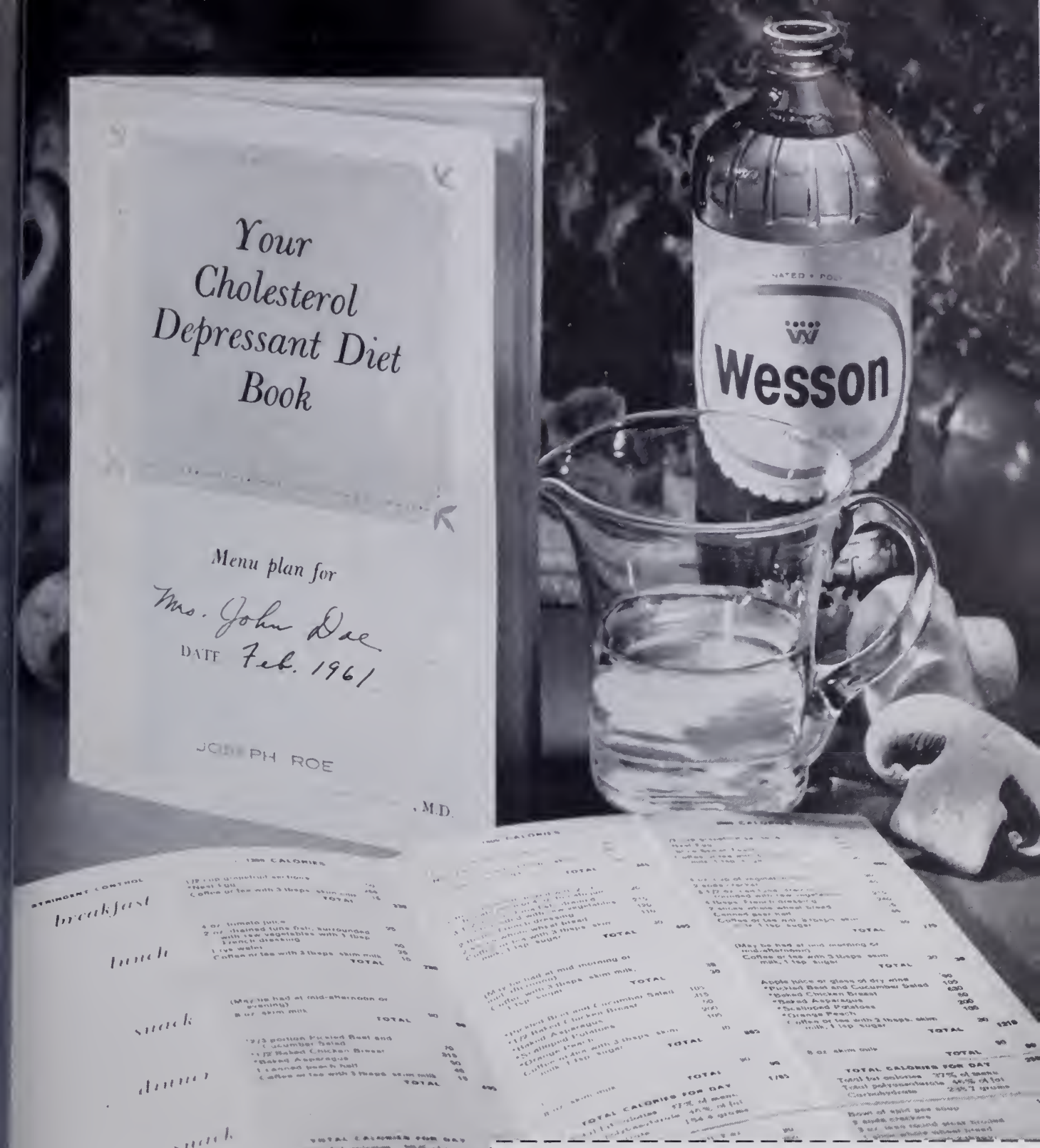
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JUNE, 1961

Published Monthly
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Ocular Causes of Vertigo In the Geriatric Patient*

• The various ocular conditions which are capable of causing vertigo are discussed. Chief among these is diplopia of sudden onset. The causes of diplopia are enumerated, and the desirability of cooperation between ophthalmologist and general practitioner in discovering these causes is stressed. Treatment from the ophthalmologist's viewpoint is mentioned.

DANIEL SNYDACKER, M. D.
Chicago, Illinois

VERTIGO is the subjective sensation of a disturbed relationship of one's body to surrounding objects in space. It results from contradictory sensations from different sensory organs which cannot be reconciled. Dizziness and vertigo are frequently used synonomously, but dizziness implies a sensation of whirling in space, whereas vertigo suggests a sense of confusion. A sudden change is necessary in order for an individual to experience vertigo; there is usually a sudden disruption of pre-existing normal sensorium. A condition existing from early childhood, to which a person has become completely adjusted, does not produce vertigo, whereas the same condition occurring suddenly in an adult, is capable of causing a sense of confusion. Even in an adult a condition which may at its onset cause vertigo, may, if long continued, cease to be disturbing.

* Presented at the Twenty-fourth Annual Meeting of the New Orleans Graduate Medical Assembly, Wednesday, March 8, 1961.

Conditions Causing Vertigo

There are a variety of conditions which may bring about vertigo. A simple classification is as follows:

1. Vertigo as the result of disturbance of the inner ear.
2. Vertigo following disturbances of the Central Nervous System.
   Toxic, occurring in the presence of a severe infection or following the absorption of various poisons.
   Anoxic, resulting from diminished oxygenation of the central nervous system as a whole, such as occurs in anemia, or generalized arteriosclerosis, or from focal lesions such as localized cerebral vascular accidents.
3. Environmental vertigo or motion sickness.
4. Vertigo of ocular origin.

Ocular Origin

Vertigo of ocular origin may occur when there is a sudden change in the way in which objects are visually perceived. There

are several situations in which objects are seen as being different than the individual is accustomed to seeing them. Most commonly, new glasses may produce this feeling. Bifocals worn for the first time, lenses which are markedly different in power from those previously worn, or new frames which position the lenses differently in front of the eye are all capable of producing a sense of confusion. The problem in such instances is usually easily solved by the patient who is aware that the minute he puts on his new glasses, he develops symptoms which are relieved when he takes them off. These problems, though vexing to both patient and ophthalmologist, are seldom serious and can usually be solved by suitable adjustments of the lenses or frames, or sometimes by sheer persistence on the part of the patient.

More rarely, a sudden or relatively sudden change in vision of one eye, particularly the dominant eye, as the result of a retinal lesion in or around the macular region may produce distortion of vision and a consequent feeling of confusion. The patient is usually very much aware of this visual disturbance and the diagnosis is usually obvious.

Still another cause of vertigo is a disturbance of binocular vision which is manifested either by frank diplopia or by a tendency to diplopia. Such disturbances are relatively rare, but when they occur, careful work-up and accurate diagnosis are important. It is interesting to note that some people recognize that they are experiencing double vision, the moment it occurs, while other people who develop a disturbance of binocular vision, sense a feeling of confusion without recognizing that they have diplopia. Disruption of binocular vision of this sort is secondary to a paralysis or paresis of one or more of the extra-ocular muscles.

Muscles Controlling Movement of Eyeball

As most readers will recall from basic anatomy, there are six extra-ocular muscles which control the movement of the eye ball. The third cranial nerve, the oculomotor, is the motor nerve which supplies the medial rectus, the superior rectus, the inferior rectus, and the inferior oblique muscles. In addition it supplies the elevator muscle of the eyelid. A lesion of the third nerve results in a rather typical picture (Figure 1) in which there is a



Figure 1. Left third nerve paralysis, with drooping of upper lid and outward and downward deviation of eyeball. Note dilated left pupil. Reproduced by permission from *Geriatrics*.

drooping of the eyelid and a downward and outward deviation of the eye. The pupil is usually dilated since the sympathetic nerve supply to the constrictor muscle of the pupil joins the third nerve in its course. Since all muscles but two are involved, there is little or no motion of the globe and the eye is fixed in the down and out position.

The fourth cranial nerve (trochlear) supplies the superior oblique muscle whose principle function is to rotate the eye down and in. Lesions of this nerve do not result in any obvious displacement of the globe but the eye is limited in its excursion in the main field of action of the muscle; hence the right eye is unable to follow an object which is down and to the patient's left, while a paralysis of the left superior oblique results in a lag of the left eye when the patient looks down and to his right.

The sixth cranial nerve (abducens) supplies the lateral rectus muscle. Paralysis of this muscle results in an inability to rotate the eye laterally. If the right lateral rectus is paralyzed the right eye is unable to follow to the right; whereas if



Figure 2. Paralysis of left lateral rectus, Note that eyes are straight in center picture, and both eyes rotate well on looking to the right, but on looking to the left, the left eye does not rotate outward beyond the mid-line. Reproduced by permission from *Geriatrics*.

the left lateral rectus is paralyzed, the left eye is unable to follow to the left. (Figure 2)

Diagnosis

In many instances, particularly when there is a complete paralysis of the 3rd or 6th nerve, the diagnosis may easily be made by inspection, particularly when the patient is asked to follow a moving object into the various fields of gaze. In instances where there is only a paresis, or if there is any fourth nerve involvement, diagnosis may not be so obvious. In such instances, the simple expedient of having the patient close one or the other eye may point the way to the solution of the difficulty. Closing the involved eye immediately eliminates the diplopia and the attendant confusion. Closing the uninvolved eye, permitting the patient to see with the paralyzed eye, eliminates the diplopia but may not eliminate a feeling of confused orientation in space.

The ophthalmologist employs an additional diagnostic test in the form of a red glass which is held over one eye while the patient fixates a small light. A patient with diplopia sees two separate images, a red and a white one. By analyzing the position of the images in the different fields of gaze, he can obtain diagnostic information in puzzling cases. Moreover, by properly charting the position of the images, he obtains a record which can be utilized in following the case from time to time.

Once the presence of diplopia has been demonstrated, a search must be made to determine the cause of the impaired extra-ocular muscle function.

In a series of cases in which there was no evidence of orbital disease or trauma to the orbital structures and the lesion was therefore due to a nuclear or infranuclear nerve involvement, Rucker [1] found intracranial neoplasm responsible for 16.5 per cent of cases with extra-ocular muscle paralysis. Vascular disease which included arteriosclerosis and hypertension and intracranial aneurysm, accounted for 26.5 per cent. The neuropathy which occasionally occurs in diabetes is included with vascular disease: In Rucker's series, head trauma, apart from trauma direct to the orbit caused extra-ocular muscle paralysis in 17 per cent of the cases. A miscellaneous group including various infections and multiple sclerosis accounted for 12 percent of the cases. Lastly no etiology could be determined in 28 per cent of cases.

It is clear that any case with paralysis of one or more of the extra-ocular muscles should have a complete physical examination with special attention to the cardiovascular system. A neurological examination is especially important. Laboratory work should include a blood sugar to rule out the possibility of diabetes mellitus. Obviously any possible etiologic factor should receive treatment.

Certain local orbital lesions which may mechanically interfere with the proper function of the extra-ocular muscles may produce diplopia. These include various tumors within the orbit such as nonspecific inflammatory masses, aneurysms, or neoplasms. Usually the diagnosis may be

made by inspection in such cases, since there is usually a fairly obvious displacement of the globe.

Trauma involving the orbital structures may also be the cause of impaired function of the extra-ocular muscles. Any patient with a head injury and unilateral or bilateral subconjunctival hemorrhage should be checked for diplopia, since this combination of findings is pathognomonic of fracture of the orbital walls. Immediate reduction of the fracture is exceedingly important since a good end result can be expected. Late repair frequently involves refracture of the orbital walls or implantation of plastic prostheses to force the globe back to its normal position. Such secondary procedures give less satisfactory results.

Treatment

If an orbital lesion is responsible for diplopia, excision of the lesion or other appropriate treatment is indicated. If the diplopia is due to nerve paralysis, local treatment is palliative. The easiest, temporary measure should be the occlusion of one eye. If the eye with the paralyzed muscle is covered, all symptoms will disappear immediately. If a paresis rather than a paralysis exists, there may be some advantage in occluding the sound eye part of the time, forcing the patient to use the paretic eye in order to prevent contractures of the uninvolved extra-ocular muscles. If the paralysis is complete, and even sometimes in the presence of a paresis, the sensorium may be disturbed when the sound eye is occluded, and there may be past pointing and other signs of confused spacial judgment, so caution must be exercised in being too firm in demanding occlusion of the sound eye.

If the double images are not displaced too much, appropriately placed prisms incorporated in spectacles may afford some symptomatic relief. There are certain disadvantages in the use of prisms, however, so that they are really of occasional use only. Since the use of prisms is rather technical, it is necessary that the ophthalmologist prescribe them.

In patients with a lower motor neurone lesion, if four to six months elapse without improvement, surgery on the involved muscles may be advisable. This surgery which necessitates lengthening some tendons, shortening others, and in some instances transplanting still others, gives best results in lateral rectus paralysis, but even in such cases, the result may fall far short of perfection. It is impossible to achieve any kind of a functional result in complete, permanent paralysis of the third nerve.

Conclusion

Although vertigo of ocular origin is rare, extra-ocular muscle paresis or paralysis must be considered as a possible cause.

The diagnosis may usually be suspected from the history, and a few simple tests are confirmatory.

An acute paralysis of one or more of the extra-ocular muscles calls for a complete physical and neurological examination to discover the cause in the absence of an obvious local lesion.

Treatment of permanent paralyses is in the province of the ophthalmologist and is, unfortunately, not always satisfactory.

References

1. Rucker, C. W.: Paralysis of the Third, Fourth, and Sixth Cranial Nerves. Am. J. Ophth. 46:787-793, 1958.

The Antihypertensive Effect Of Guanethidine Sulfate*

• An evaluation of the drug in twenty-five hypertensive patients.

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FOLLOWING Maxwell's, *et al*,[1-3] postulation that guanethidine sulfate (Ismelin, Ciba) exerts its action at the sympathetic nerve endings and causes sustained lowering of both systolic and diastolic blood pressures in unanesthetized neurogenic and renal hypertensive dogs, there was much investigation [4-7] to determine the antihypertensive effects in man. This investigation involved not only the hospitalized hypertensive,[4, 6] but also the outpatient hypertensive patient,[5] with one investigator utilizing both.[7] It is the purpose of this paper to present the clinical antihypertensive effects of guanethidine sulfate on 25 unselected patients from the Hypertension Clinic, L.S.U. Service, Charity Hospital, New Orleans.

Methods and Materials

Twenty-five patients, consisting of 17 Negro females, 5 Negro Males, and 3 Caucasian females, were selected at random, their range of age from 34 years to 66 years, with an average of 47.8. All previous antihypertensive medication was discontinued for a minimal period of two weeks. At the end of this period the patients were graded according to severity, and then were started on guanethidine in a dosage routine proportional to the severity of their hypertension. The patients were seen biweekly, blood pressures were taken in the sitting position, and dosage was altered according to response. Any side effects experienced by the patients were likewise recorded. Blood urea nitrogen determinations were made prior to and after the study.

It was the authors' opinion that in order to fully evaluate this drug, a minimum of five months be used for clinical trial. The average length of time utilized was 20.3 weeks (See Table 1). It was not felt that a solitary blood pressure at the end of the study would necessarily reflect a valid response to the agent, therefore, to evaluate an "initial response", an average of blood pressures taken at four and six weeks was used, and an average of the last three blood pressures taken was used to reflect a "sustained response".

Dosage

The lowest dosage utilized was 10 mgm. daily, and the highest used was 75 mgm. daily, with an average of 41.3 mgm. per day (See Table 1). In all instances except one, dosage was increased with the passage of time in order to maintain the antihypertensive effect.

Results

Initial antihypertensive results. — By utilizing the criterion that any fall in the diastolic blood pressure represents a "response" and that no change or rise in diastolic pressure represents "no response", there were noted 19 responses, 12 of which

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* Supplied as Su-5864 by Dr. W. Wagner of CIBA Pharmaceutical Products, Inc., Summit, New Jersey.

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TABLE 1

Case Number	Age	Sex	Race	Grade	BP Untreated (MM Hg) Sitting	Dosage room/day			Duration of Treatment (Weeks)	BP after Treatment Average 4-6 Weeks (MM Hg) Initial (Sitting)	BP after Duration of Treatment (MM Hg) Sustained (Sitting)	BP Change 4-6 Weeks (MM Hg)	BP Change after Duration (MM Hg)	BUN mgm %		Side Effects
						Low	Average	High						Before Treatment	After Treatment	
1.	58	F	W	1	170/98	20	27.7	30	23	154/80	140/80	—16/—18	—30/—18	21	15	Increased appetite, mild orthostatic faintness
2.	57	F	N	2	156/92	10	18.2	20	19	140/82	153/68	—16/—10	—3/—24	9.5	17	Congestive heart failure
3.	45	M	N	1	150/100	20	28.8	30	14	151/101	159/106	+1/+1	+9/+6	8	—	
4.	55	M	N	2	160/140	30	38.3	40	9	140/97	152/100	—20/—43	—8/—40	12	—	Increased appetite, increased libido
5.	51	F	W	2	180/112	30	36.6	50	22	177/97	165/96	—3/—15	—15/—16	8	12	Increased appetite, weakness
6.	46	F	W	1	170/120	20	34.1	50	22	187/110	181/99	+17/—10	+11/—21	7	17	
7.	37	F	N	1	180/116	30	38.3	50	23	150/103	156/109	—30/—13	—24/—7	5.4	17	Increased appetite, mild orthostatic, faintness
8.	46	F	N	2	200/130	20	32.3	50	23	121/106	162/115	—79/—24	—38/—15	19	15	Headache
9.	36	F	N	2	170/120	20	25.4	30	23	142/105	149/98	—28/—15	—21/—22	7	11	Orthostatic, faintness and weakness
10.	37	F	N	1	150/110	30	31.6	50	22	150/109	152/109	0/—1	+2/—1	10	9	
11.	54	F	N	1	170/99	20	31.1	50	22	180/105	165/94	+10/+6	—5/—5	10	17	
12.	55	M	N	2	190/104	30	30	30	21	175/95	149/80	—15/—9	—41/—24	10.8	16	
13.	40	F	N	1	156/102	25	26.2	30	18	156/99	142/92	0/—3	—14/—10	14	—	
14.	55	M	N	2	210/136	75	75	75	21	200/117	187/117	—10/—19	—23/—19	15	13	
15.	51	F	N	2	220/100	25	66.6	75	21	182/105	190/102	—38/+5	—30/+2	13	14	
16.	57	M	N	2	240/120	50	61.3	75	20	199/108	201/113	—41/—12	—39/—7	16	21	Increased appetite, mild orthostatic, faintness
17.	34	F	N	4	250/160	50	67.8	75	19	196/128	172/108	—54/—32	—78/—52	9	—	
18.	39	F	N	2	194/118	25	59	75	23	167/106	171/103	—27/—12	—23/—15	19	21	
19.	52	F	N	1	220/120	40	46.6	50	21	163/97	174/103	—57/—23	—46/—17	16	13	Increased appetite, orthostatic syncope
20.	50	F	N	2	210/124	40	59.5	25	21	175/114	176/120	—35/—10	—34/—4	8	16	Mild orthostatic, faintness, palpitations
21.	42	F	N	2	180/110	30	45.8	50	23	162/110	155/105	—18/0	—25/—5	17	13	Increased appetite, headache
22.	41	F	N	1	128/102	20	20.6	25	19	130/99	142/92	+2/—3	+14/—10	12	12	
23.	42	F	N	4	172/122	40	47	50	20	149/106	149/102	—23/—16	—23/—20	21	21	Increased appetite
24.	66	F	N	2	220/124	25	43.7	50	22	200/96	205/100	—20/—28	—15/—24	14	15	Mild orthostatic, faintness, weakness
25.	51	F	N	4	192/116	30	43	50	18	195/115	175/107	+3/—1	—17/—9	12	15	
Averages: 47.8							41.3		20.3			—19.8/—12.2	—20.6/—15.1			

were greater than the average of the diastolic responses. The average diastolic fall was 12.2 mm. of Hg., and the average systolic fall was 19.8 mm. of Hg. There were 12 patients whose initial systolic pressure responses were greater than the average of the systolic responses.

Sustained antihypertensive results. — Using the same criterion as above, we noted a "response" in 23 of the 25 patients, 12 of which were greater than 15.1 mm. of Hg., which is the average of the diastolic response. It was likewise noted that there were 14 patients whose systolic fall exceeded that of the average systolic fall of 20.6 mm. of Hg.

Side Effects

True orthostatic syncope was experienced by only one patient, although 6 experienced mild orthostatic faintness. One patient went into congestive heart failure, was digitalized, and compensated without any discontinuance of the drug. It was noted in 8 patients that there was an increase in appetite and overall feeling of well-being paralleling that of euphoria in one. Weakness was related by 3 patients, and vague frontal headaches in 2. Because only 5 males were used in this study, we encountered only 1 case of ejaculation becoming prolonged, and interestingly enough, this was considered a beneficial effect by the patient. No significant changes of the blood urea nitrogen were noted.

Summary

The antihypertensive action of guanethidine sulfate (Ismelin Ciba) on 25 unselected out-patients from the L.S.U. Hypertension Clinic, Charity Hospital, New Orleans, is presented. The patients were checked biweekly and were followed for an average of 20.3 weeks. Dosage ranged from 10 to 75 mgm. with an average of 41.3 mgm. per day. Twelve patients (48 per cent) showed a drop in systolic and diastolic pressures greater than the average of initial systolic and diastolic responses of 19.8 12.2 mm. of Hg., while 14 (56 per cent) patients had a sustained drop in systolic pressure greater than the average drop, and 12 (48 per cent) patients had a sustained diastolic fall which exceeded the sustained average of 20.6 15.1 mm. of Hg. Side effects most often elicited were orthostatic faintness, increase in appetite, weakness, and headache. No significant BUN changes were noted.

Previous clinical observations on the use of antihypertensive drugs in our Clinic have demonstrated that some drugs may lose their effectiveness even after six months. Other drugs may then produce an antihypertensive effect. Resumption of the original agent at a later period may again demonstrate the previous antihypertensive effect after it has been withheld because of acquired refractiveness.

Effective management of a case of arterial hypertension necessitates continued observation as various drugs may be required at different periods. Some cases do not require this adjustment and may be maintained on a drug with a good prolonged response.

References

1. Maxwell, R. A., Mull, R. P., and Plummer, A. J.: Experientia 15:267, 1959.

2. Maxwell, R. A., Plummer, A. J., Schneider, F., Povalski, H., and Daniel, A. I.: J. Pharmacol. & Exper. Therap. 128:22, 1960.

3. Maxwell, R. A., Plummer, A. J., Schneider, F., Povalski, H., and Daniel, A. I.: Pharmacologist 1:68, 1959.

4. Page, I. H. and Dustan, H. P.: J.A.M.A. 170:1265, 1959.

5. Frohlich, E. D. and Freis, E. D.: Med. Ann. Dist. of Columbia 28:419, 1959.

6. Richardson, D. W. and Wyso, E. M.: Virginia Med. Month. 86:377, 1959.

7. Brest, A. N., Duarte, C., Glantz, G., and Moyer, J. H.: Current Therap. Res. 2:17, 1960.

Sarcosporidiosis*

• A popular misconception is corrected concerning the identity of certain minute bodies occurring in the breast meat of some wild duck killed in Southwest Louisiana.

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MUCH misinformation exists among veterinarians, physicians, sportsmen, duck hunters, gourmets and interested lay persons concerning the identity of certain minute bodies occurring in the breast meat of some wild ducks killed in Southwest Louisiana. It is important especially for physicians to be correctly informed on the exact nature of these bodies since they may be queried about their disease potential by misinformed patients and lay persons. With this in mind a study to determine their identity was undertaken.

Materials and Methods

In 1958, Dr. James Heard, D.D.S., Lake Charles, Louisiana, provided for investigation a fresh frozen greenhead mallard drake containing uniform intermuscular white structures similar to those he had noted in the breast meat of other ducks.

Naked eye examination of the mallard revealed many glistening small white uniform rice-like bodies measuring 4 mm. to 5 mm. in length and 1 mm. to 1.5 mm. in diameter located between and parallel to the muscle fibers of the breast.

After formalin fixation slides of longitudinal and transverse sections (Figures 1, 2, 3) were prepared and stained and when studied microscopically, revealed small elongate oval bodies with tapering rounded ends. An outer membranous layer enveloped the body. Trabeculae passed into the interior from an inner layer producing compartments filled with crescent-shaped spores in various stages of development.

Identification and Classification

The above characteristics identify these minute rice-like intermuscular bodies as a parasite. Placed at one time in the category of Protozoa because of their unicellular character, they were further subclassified as belonging to the Sporozoa because of their spore-forming capacity in one stage of development. Since the spores eventually migrated to involve the skeletal muscles primarily, these unicellular parasites were further classified as

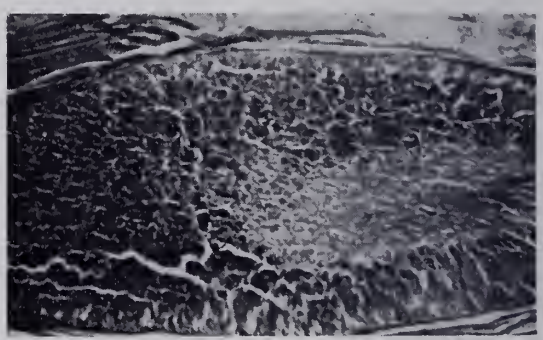


Figure 1. Longitudinal section of a parasitic body between pectoralis muscle fibers of a duck killed in Southwest Louisiana. x 35.

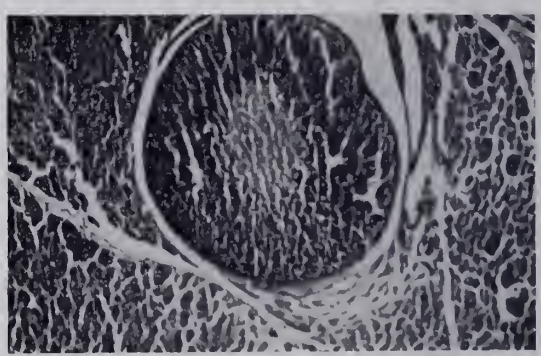


Figure 2. Transverse section of the same parasitic body showing two linings and internal structure. x 35.

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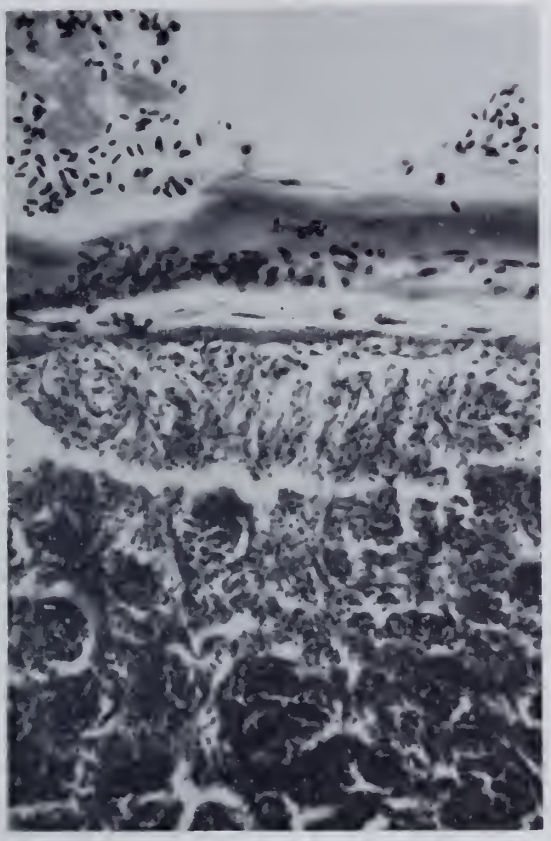


Figure 3. Longitudinal section showing detail of linings, trabeculae, and compartments containing spores. x 430.

belonging to the order Sarcosporidia and hence the term, "Sarcosporidiosis" was coined to describe this animal condition.[1-3]

As in the case of Rhinosporidiosis and Toxoplasmosis (parasitic diseases of man and animal), Sarcosporidiosis is tentatively regarded as a parasitic fungus infection principally of animals rather than a parasitic protozoon disease.[4]

Birds, reptiles, and mammals including horses, hogs, sheep and cattle are parasitized by various species of similar morphology referred to as Sarcocystis.

The striated or skeletal muscles of the body, especially of the chest, tongue and diaphragm are involved primarily. Depending on the species and stage of development, tubular masses of spores are formed called "Miescher's tubes" after their discoverer who first described them in mice.

Life Cycle

The life cycle is uncertain but according to studies conducted in mice and sheep fed with flesh or feces containing spores infections were produced. Herbivorous animals become infected in ingesting contaminated food. The current theory is that spores liberated by ingestion penetrate the cells of the intestinal lining. After multiplication they reach the lymphatics and eventually migrate to the muscles where they develop into sarcocysts. From forty to fifty days are required before the parasites are found in skeletal and smooth muscle tissue and from eighty to ninety days before spores are produced.

Pathogenesis and Incidence

This parasitic disease is very rarely observed in man. No deaths or definite symptomotology have been reported. Only 12 nonfatal asymptomatic authenticated cases, mostly from India, Barbados and the Sudan, have been described as due to *Sarcocystis lindemanni* but in all cases the parasites were accidentally noted at autopsy.[5-7] These parasites can be generally regarded as harmless to man and animal.

Although they may be spoken of as *"worms"* by the lay person, in the biologic sense they do not fit the criteria for worms. Hence when questioned about this problem it is best and more scientific to use the term "animal parasite". The destruction of parasites and bacteria by the proper cooking of meat of edible vertebrates is generally known.

There is no evidence that properly cooked parasitized ducks will cause any harm. Local inquiry amongst scientific professional persons and the lay public interested in this problem reveal a common misconception that these tiny rice-like bodies are either (1) worms or (2) collections of fat.

Research

Research and study of the problem with ultimate steps toward eradication and prevention of this nuisance-type para-

site are underway at many state and national biological laboratories.

Summary

One stage of a harmless parasitic disease known as Sarcosporidiosis is seen in the breast meat of wild ducks in Louisiana. These parasites are easily recognized by the unaided eye as small whitish rice-like intermuscular bodies running parallel to muscle fibers. Microscopic study identified these bodies as single-celled spore forming organisms. Nonfatal human infection by this parasite is very rare and since it gives rise to no symptoms it is not readily discovered except at autopsy. How man acquires the infection is uncertain but eating uncooked or contaminated food is the most probable explanation. For obvious reasons the use of the more scientific term "harmless parasite" is preferred to the term "worm" when discussing this condition with lay persons. A popular misconception concerning the identity of these bodies is corrected.

References

1. Cameron, T. W.: The Parasites of Domestic Animals, 2nd Edition J. B. Lippincott Company, E. Washington Square, Philadelphia, Penna. 1950.
2. Lapage, Geoffrey: Veterinary Parasitology, Charles C Thomas, Springfield, Illinois, 1953.
3. Hyman, L. H.: The Invertebrates, Vol. 1, 163-64, 1940.
4. Chandler, Asa C.: Introduction to Parasitology, John Wiley & Sons, New York, 1949.
5. Craig, C. F. and Faust, C. F.: Clinical Parasitology, Lea and Febiger, G., Philadelphia, Penna., 1953.
6. Darling, S. P.: Sarcosporidiosis With Report of a Case in Man. Arch. of Int. Med. 3:183, 1909.
7. Gilmore, H. R., Kean, B. H. and Posey, F. M.: A Case of Sarcosporidiosis. Am. J. Trop. Med. 22:121-125, 1942.

Discussion

Dr. Robert Worden, (Lake Charles) — When Drs. Ranier and Newman asked me to discuss this paper I thought it was rather odd for an obstetrician-gynecologist to discuss a subject in the field of parasitology. However, when they explained to me that they were interested in my comments as a fellow physician whose avocation is hunting, I agreed to discuss the subject.

From discusions with other hunters it is my impression that about 50 per cent of the duck population in Southwest Louisiana is parasitized by this "fungus". In our area from my own personal polling of physicians, veterinarians, hunters, guides, sportsmen, housewives and wildlife reporters there seems to be a great variety of opinions about the exact nature and pathogenicity of these rice-like intermuscular bodies.

Incidentally, a recent short article on this subject which appeared in the February 1961 issue of *Conservation* published by the Louisiana Wild Life and Fisheries Commission was based entirely on the paper presented here today by Dr. Ranier.

To add further confusion, recently an article appeared in the Wildlife section of our local newspaper quoting a state biologist as stating that these parasitic fungi were merely fat bodies, a theory I found held by a significant number of veterinarians, sportsmen, housewives and reporters. This certainly is not the case and I am glad that Drs. Ranier and Newman have set the record straight. I wish to commend the authors for emphasizing that there is no real health hazard involved and that physicians may with assurance calm the fears of patients who believe eating these parasitized ducks could account for their illness; likewise they can be further assured that it will not affect their health in the future.

Now that "nutria", a herbivorous mammal, is being promoted as satisfactory for human and animal consumption, similar bodies may soon be reported in humans as well as dogs, cats, and other animals fed meat so parasitized. Hence it is important that farmers, veterinarians, trappers, meat packers and distributors as well as physicians be properly informed of the true significance of these organisms.

In conclusion, I would like to urge you to stimulate the members of both State and Federal Wildlife Commissions to look into possible means of eradicating this nuisance food problem particularly in view of the so-called contemplated population explosion. It is certainly a shame to waste edible food because of a false notion of its illness-producing capabilities.

Symposium
Oral Griseofulvin in Superficial Fungal Diseases of the Skin*

I. Introductory Remarks

FRANK H. DAVIS, M. D. Moderator †
Lafayette

IT was at the American Academy of Dermatology and Syphilology Meeting in Chicago, Illinois, December 6, 1958, that Blank and Roth [1] of the University of Miami (Florida) Medical School, presented a preliminary report of their limited but very successful experience with systemic treatment of superficial fungal infections. I was in attendance at that memorable meeting and shared in the excitement and satisfaction expressed by many, that these men had finally opened the door to a new field of clinical and research medicine which, up to then, had seemingly evaded the minds and efforts of men in medical science. It also meant the beginning of a new era of definitive treatment of a group of conditions which would be quite a contrast to the discouraging and inadequate vicissitudes of therapy of fungal diseases of man and animal in the past.

Earlier Work

Some of the earlier work with this new orally administered antibiotic, griseofulvin, had been done by Gentles [2] on guinea pigs and Lander and O'Sullivan [3] while treating calves, both animals having been experimentally infected with fungi that also infect man. It was brought out in discussions of Blank's [1] paper in Chicago, in 1958, by G. A. Grant Peterkin that he had tried the drug topically on human dermatomycoses without success and had not (much to his later chagrin) pursued the oral possibilities of the drug. It had not been used successfully orally in man until Blank et al. decided to try it on a patient who had suffered a *T. rubrum* infection of the glabrous skin for over twenty years. It was this case, so we are told, that opened their eyes to its use in many others which were the basis for their memorable report. Those of you, like ourselves, whose patients have benefited from this wonderful drug are now, no doubt, obtaining these same results.

Sensitivity

Griseofulvin is a fermentation product of three species of (fulvicins) penicillin, *P. patulum, P. griseofulvin* and *P. janczewski.* Clinically it has not been proven to produce cross sensitivity in penicillin-allergic individuals which seems to be a blessing considering the rather extended use of penicillin and griseofulvin today. There is reported in a recent JAMA [4] issue a rather severe angioneurotic edema —urticaria type of case which rather remarkably resembles a true penicillin hypersensitivity-type of reaction. This case may or may not be one to contradict some of the earlier reports that griseofulvin would not cross-react with penicillin sensitive individuals. Time alone will tell.

Griseofulvin is apparently inactive against bacteria and hence has not provoked the problem that so many other oral antibiotics have done when they react to upset the normal intestinal flora. It does seem to be inactive, too, against actinomycetes and yeasts. However, as has been the experience of most of us in

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* Presented at the Eightieth Annual Meeting of the Louisiana State Medical Society, May 3, 1960, in Baton Rouge.

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treating some cases of *T. rubrum* that have been existent for many years, there may be a secondary flare-up of an unknown monilial infection with the progressive improvement of the trychophyton infection. This would make one conclude that *T. rubrum* has a suppressing effect upon a coexisting yeast infection of the skin in the same patient.

As others will point out to you today, dermatotrophic fungi attack the keratin of the skin and its appendages so the ideal antifungal agent would naturally be one to seek out this material in the skin, nail, hair, etc. and have its predisposed effect at this site. Griseofulvin is thought to go even one step further than the formed keratin and in so doing, penetrates the living keratogenic cells at a very early stage in their development—a site not affected by superficial fungi. It was Wilson [5] who is quoted as writing in his text on the subject:

"The ideal antifungal drug even for superfiical mycoses, would seem to be one which could be safely administered internally in amounts sufficient to endow the cells eventually destined to produce keratin with the power to resist fungi completely, this power persisting as they become keratinized and the drug thus exerting its efforts from within outwards".

Probably because of the process just described, it is felt that our new antifungal agent is fungistatic and not fungicidal. Perhaps that is why we are finding the results obtained in treating some of our trychophyton onychomycoses cases so discouragingly resistant to treatment. According to studies by Roth and Blank,[6] it has been shown that fungi can be immersed in media containing griseofulvin for many weeks and even though there is no growth during that period, when the mycelia are removed and washed, growth is seen to begin again.

Indications

In my practice, I have made it a rule to refrain from starting a patient on griseofulvin until I am positive of the indication for the drug. That is, I have either found positive evidence of a susceptible fungus on "fresh prep" examination under the microscope or on appropriate culture, before the drug is prescribed. Then I place the patient on adequate dosage and try to maintain him on this therapy until I have obtained a clinical or preferably a culture - cure. There have been some patients to come to me with the history of having had "the expensive drug" in question where they should not have done so. Some of these cases have been misdiagnosed clinically and actually were not of fungal origin at all. Others have been cases caused by fungi not amenable to successful therapy with griseofulvin.

I can recall one lady-patient calling and stating that she would appreciate my mailing her a prescription for "that new medicine by mouth that is good for ringworm". She had been a patient of mine before the discovery of the usefulness of griseofulvin and had been told that she had dyshidrotic hand eczema. Because of a recurrence of the hand eczema, she had been back to her druggist for refilling of the prescriptions I had given her two years previously. The druggist had looked at her hands and stated that she ought to get me to give her a prescription for the new drug (stating that he couldn't sell it without a prescription) because he thought it would cure the eczema. This sort of thing should be discouraged by all of us as physicians—both for cases involving this drug and others. Naturally this cited case is the exception rather than the rule, but does indicate an abuse of a preparation that should be kept in the category for which it was intended. Griseofulvin is an excellent drug and if we continue to put it to proper use only, as best we can, it will do therapeutic wonders for us. Already it has done things for us as dermatologists that I personally did not believe would ever come to pass in my medical lifetime.

I would like to again quote a statement made by Wilson [7] at the "Doctor to Doctor" forum at the American Medical Association meeting in Atlantic City, June 4, 1959. He said,

"I think that griseofulvin is the only anti-

fungal antibiotic which has appeared so far which is apparently reasonably safe for internal administration. I do not say that I believe this is the only one which will ever be discovered, but it might be. The soils of the earth have been rather thoroughly assayed for antibiotics, a search which has been very extensive and continuous over many years. If there were in nature a great many such materials as this, I think that some would have been found before this time. Therefore, it is wise for us to look upon this as a very valuable agent and one which should not be wasted. By wasted, I mean to allow it to undergo the same misuse which has wasted a good deal of the effectiveness of some of the other antibiotics. Penicillin is only about 10 per cent as valuable to the medical profession as it was at its beginning, because our bacterial enemies have learned to resist it. Sooner or later, our fungal enemies may learn similarly to resist griseofulvin. If it is used too widely and without appropriate control, we may lose some of its value".

This is certainly excellent food for thought and well worth remembering in our every-day practice.

Another thought that has occurred to me is that with the tendency for certain individuals and groups to perhaps unreasonably criticize and even try to legislate against the pharmaceutical and medical professions, perhaps we would be better proponents of good public relations if we always prescribed these expensive medicines with utmost discretion and judgment. I refer to the fact that at times when we get a little overly busy, we tend to lean on some of the antibiotics as a crutch rather than sticking to and prescribing them only when we know that there exists a true indication for their use.

My own impressions of griseofulvin, as have been concluded from my own practice, are probably a reflection of those of many. I feel that it serves an excellent purpose if we stick to its use in those superficial fungal diseases caused by species of trychophytons, microspora, and epidermophytons. This particularly includes tineal (ringworm) infections of the hands, feet, nails, hair and body skin. It seems unbelievable that some of these cases can be positively cured in as short a time as a few weeks, but that is what is currently being accomplished. There are some patients, particularly those with nail (more especially, toenails) and interdigital infections which are less responsive to the drug and may require a disturbingly long time in bringing about a cure. I found one case of *T. rubrum* infection of the skin and nails (of many years' duration) in which the skin and toenails responded much quicker than the fingernails did.

Topical Treatment

I have made it a practice to continue to treat my cases locally in addition to administering the oral medication. This is particularly true in *T. capitis* infections and I think that we all agree that extirpating the infected hairs is essential for a cure. However, the concomitant administration of oral and local therapy in fungal skin and nail cases is debatable. For instance Wilson [7] says:

"I don't think nails should be removed—I was against it before we had griseofulvin and I'm against it now that we have griseofulvin. I have seen such a small percentage of cures obtained by complete removal of the fingernails and toenails that I have become very discouraged with this procedure. I believe that it is better to allow the material to stay there. I think we should realize that griseofulvin contributes a resistance to fungous invasion in a certain layer of cells. This layer of cells produces nails, it produces hair, it produces skin. As this layer of cells moves outward, to be finally shed from the periphery, it becomes a sort of barrier through which the fungus cannot pass. The surgical removal of nails would remove the barrier as well as some peripherally infected nail. I also believe it is unwise to use keratolytic agents on the skin during the administration of griseofulvin. It is true that such agents might remove the most external portion of the keratin, and thereby remove some of the organisms, but they would also be likely to remove the part of the keratin that is endowed with this drug and is serving as a resistance barrier to the deeper penetration of the infection. I think it is best to let these things take their natural course".

So you can see that some feel that oral treatment alone is the procedure of choice in most tineal infections.

Reactions

Doctor Kennedy is going to adequately cover untoward reactions to griseofulvin on our panel but my own practice recent-

ly produced a symptom-complex in a case that might be worth mentioning. This man had a glabrous skin infection (involving primarily the buttocks and crural region) which responded nicely to 1000 mg. a day of griseofulvin and in about two weeks time he was symptomatically cured. I was planning to taper off on the drug when he developed a persistent generalized body itching (no evidence in my office of a true urticara). This continued when the griseofulvin was stopped and required steroids for relief. At the time of this writing, he is beginning to get relief but I do not yet know the final outcome of his reaction. He is not penicillin-sensitive to my knowledge. I plan to do liver function studies on him before I discharge him. Clinically this is a definite side reaction to the drug. It appears that they are going to be more and more common as we increasingly use griseofulvin.

Much has been written and discussed by mycologists, dermatologists and others working with oral griseofulvin. However, when we were called upon to present a dermatology program at the state society meeting it was felt that a thorough review of the discovery and history of the drug, physiology, in vitro studies, uses and abuses in clinical practice, relapses, reinfections, development of resistance to the drug, toxicity, pertinent data as to diagnosis and treatment of fungal diseases of different parts of the body and a relation of interesting personal experiences by members of the panel, would be in order.

References

1. Blank, Harvey; Roth, F. J. et al.: The Treatment of Dermatomycoses with Orally Administered Griseofulvin, AMA Arch. Dermat. 79:259 (March) 1959.

2. Gentles, J. C.: Experimental Ringworm in Guinea Pigs; Oral Treatment with Griseofulvin, Nature, London, 182:476 (August) 1958.

3. Lander, I. M. and O'Sullivan, J. G.: Vet-Rec. 70: 947, 1958.

4. Goldblatt, Samuel: J.A.M.A. 172:1643 (April 9) 1960.

5. Wilson, J. Walter: Therapy of Fungal Diseases, P. 25—Boston, Massachusetts, 1955.

6. Roth, F. J., Jr. and Blank, Harvey: In Vitro Studies of the Antifungal Antibiotic Griseofulvin (To be published).

7. A Round Table Discussion on Griseofulvin "Doctor to Doctor" Meeting of A.M.A. and Specialty Societies, Atlantic City, June 4, 1959.

The Influence of Modern Scientific Medicine on the Prevention and Cure of Disease

The Annual Oration Delivered before the New Orleans Medical and Surgical Association, December 10, 1881, by Isaac L. Crawcour, M. D.

It is now about twenty years since Tyndall demonstrated that the atmospheric dust which we distinguish as motes in the sunbeam, consisted of organized materials, and that this dust contained the organisms which produced putrefaction, fermentation, and a host of other changes. Reasoning from this, it was left to the genius of Pasteur and Lister to determine that these atmospheric organisms were the cause of the non-healing of wounds, of septic poisoning, of erysipelas, puerperal fever, etc., and that by preventing the attachment or absorption of these germs, sepsis was obviated, wounds healed by first intention, and the antiseptic treatment of wounds became inaugurated.

New Orleans M. & S. J. 10:481 (January) 1882

II. *Treatment of Fungal Conditions with Griseofulvin, Scientific Background*

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GRISEOFULVIN was initially extracted from the mycelium of *Penicillium griseo-fulvum* by Oxford, Raistrick and Simonart,[1] in 1939, during the penicillin era when intensive searches were being made for other antibacterial substances. Since griseofulvin did not possess such activity, it was laid aside.

Agricultural Beginnings

In 1945, however, griseofulvin was rediscovered when Brian, Hemming and McGowan[2] reported culture filtrates of *P. janczewski* had a peculiar distorting effect on *Botrytis allii*, a plant pathogen. It is interesting to note that Brian and his associates were investigating the origin of toxicity to mycorrhizal fungi normally associated with coniferous trees which were experiencing a growth failure in the area of Dorset, England. The toxicity, and attendant growth failure of conifers, was shown due to an accumulation in the soil of metabolites of *P. janczewski* and other species of *Penicillium*. One of the metabolites responsible was named "curling factor" (Brian[3]), a terminology currently used. In 1947, Grove and McGowan[4] found that the "curling factor" of *P. janczewski* was identical with griseofulvin isolated from *P. griseofulvum* several years previously.

There was a flurry of interest by agriculturists when in 1951 Brian *et al.*[5] utilized the fungistatic effect of griseofulvin to protect crops. In choosing this substance, they were influenced by four considerations: (1) It could be detected by a bioassay based on its unique effect on certain fungi. (2) It possessed stability in aqueous solution. (3) It had low toxicity for higher plants. (4) It was produced by fungi that are abundantly and widely distributed in agricultural soils. In fact, the last mentioned consideration led them to believe soil seeded with griseofulvin-producing fungi might produce griseofulvin locally which would then be taken up by the roots and hence transported to the leaves of young plants. They were not able to make practical application of this concept but because of their experiments griseofulvin was rather widely employed for agricultural purposes.[6]

It was soon shown that griseofulvin could be produced by still other penicilia, viz. *P. patulum*, *P. raistrickii*,[7] and *P. janczewskii*. It should be noted, however, that Raper and Thom[8] consider both *P. patulum* and *P. griseofulvin* as synonomous with *P. urticae;* and *P. janczewskii*, the same as *P. nigricans*. Regardless of the source, however, various lots of griseofulvin possessed the same activity. The chemical nature of griseofulvin was studied by Mulholland and his associates and reported in 1952 in a series of six parts. (Only the last part is listed in the references[9] of this review.)

Not until 1955 was griseofulvin employed against fungi pathogenic for human beings. At this time investigators at the Glaxo Laboratories in England found it active *in vitro* against pathogenic skin fungi.[10] Topical applications in ointment form were unrewarding, however, and were no improvement over the use of older fungistatic agents.[10, 11]

In August of 1958, J. C. Gentles,[12] a medical mycologist in the department of bacteriology at the University of Glasgow, published his now historic note, "Experimental ringworm in guinea pigs, oral treatment with griseofulvin".[12] It is interesting to note this apparently represents only the second trial reported in the literature of an attempt to treat superficial fungous infections orally with spe-

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cific chemo-therapeutic substances. Although little was known about the absorption given by mouth, Gentles felt the low mammalian toxicity and fungistatic effect *in vitro* warranted investigation for possible systemic effect. In animals infected with *Microsporum canis*, Gentles observed a beneficial effect clinically within four days after daily therapy was started. Gentles gave the following description of his observations:

"It was noted under Wood's light the infected hairs of treated animals fluoresced only at the tips and microscopic examination revealed that the dermatophyte was present only in this upper part of the hair shaft. The uninfected basal portion was sharply delimited from the invaded part and malformation of the tips of the dermatophyte hyphae, characteristic of the effect produced by griseofulvin on susceptible fungi, was seen in a number of hairs cut longitudinally. It seems clear that the uninfected part of the hair had been formed during the treatment with griseofulvin and was resistant to invasion by the dermatophyte."

By the eighth day his treated animals were virtually free of infected hairs; whereas almost all of the hair follicles of the untreated group were heavily invaded. In this publication Gentles referred to the as yet unpublished but successful treatment by Lauder and Sullivan of *Trichophyton verrucosum* ringworm induced in cattle.

Oral use on Human Subjects

The interest of all dermatologists was excited a few months later when almost simultaneously, but in the order listed, Riehl [13] in Austria, Williams [14] in England, and Blank and Roth [15] in the United States reported their near-miraculous experiences with griseofulvin administered orally to human subjects. Pardo-Costello and his associates have been credited [16] with having used this compound, in 1957, with a high degree of success but actually this team was prompted by the above listed reports to try oral administration. Subsequent trials from over nearly all of the world, would seem to justify the initial optimism of Gentles, for the efficacy of orally administered griseofulvin has been acclaimed almost unanimously.

Mode of Action

The mode of action of this antibiotic is still not fully known. Early *in vitro* studies showed that griseofulvin disturbs the metabolism of fungi by direct contact.[17] When the fungous hyphae exhibit the curling effect, weak spots appear on the cell walls in a disorganized manner and frequently rupture. There is no diffusion through the hyphae, as shown by the fact that hyphae contiguous with the inhibited zones, but not themselves in direct contact with the drug, develop normally. These effects have been observed on a representative range of filamentous species which have chitinous cell walls, whereas those which have cellulose walls or walls of other polysaccharides (e.g. yeasts) do not exhibit this morphogenetic disturbance.[4]

This may explain, at least in part, the insensitiveness of *Candida albicans* and *Cryptococcus neoformans* to griseofulvin as observed by Roth.[15] Without explanation is the similar lack of sensitivity observed by this same investigator with other of the systemically pathogenic fungi which possess chitin, viz., *Hormodendron compactum, Phialophora verrucosa, Blastomyces dermatitidis, Blastomyces brasiliensis* and *Histoplasma capsulatum.* This might also explain the ineffectiveness of griseofulvin in the treatment of tinea versicolor which is caused by *Malassezia furfur*, a yeast. For whatever the reason, the activity of griseofulvin against human pathogens seems limited to the dermatophytic agents of superficial skin diseases. More recently, Roth [15] confirmed the fungistatic action of griseofulvin. Fungous pellets suspended in griseofulvin for as long as fourteen days and then washed thoroughly, produced normal colonies when plated on an antibiotic free medium. He did find one of the dermatophytes, *T. rubrum*, to be completely inhibited but at concentrations not likely to be attained *in vivo.* Therefore, it is likely the activity in man is fungistatic. It is noteworthy that Roth did not, however, encounter development of resistance to the drug *in vitro.* Finally, griseofulvin is not antibacterial

and its prolonged administration will not disturb the normal intestinal flora.[17]

That griseofulvin is quickly absorbed into the blood has been shown by Bedford and co-workers [18] using spectrophotofluorometric methods. Peak blood levels were found four hours after a single oral dose. Griseofulvin was also found in the urine.

Gentles, Barnes and Fantes [19] postulated the deposition of griseofulvin into the keratinous layer of the epidermis and subsequent penetration into the hair follicle where it is somehow incorporated into the keratin of emerging hair shafts. They further postulated the latter should contain a band of resistant keratin from which griseofulvin could be extracted. In support of their hypothesis they were able to elute griseofulvin from hair clipped from treated animals. Whatever the exact mechanism, it seems clear that the eradication of dermatophyte infections by griseofulvin is due to its incorporation into keratinous tissues.

Methods of Assay

Many *in vitro* methods have been employed which utilize the curling effect to assay concentrations of griseofulvin in various tissues and fluids of both plant and animal (e.g. Brian, *et al* [5]). More recently, however, Roth and Blank [20] have developed an ingenious method of bioassay to demonstrate the presence of griseofulvin *in situ* in the skin. Multiple applications of pressure sensitive tape were performed in one area of the forearm until the surface of the tape no longer showed the presence of cornified cellular elements. At this point the skin assumed a glistening appearance, indicating penetration of the upper region of the stratum mucosum. By this method the stratum corneum could be stripped to any desired level. Fungal spores were deposited in the stripped area to be assayed. A plastic ring was then placed over the area and filled with melted agar which was permitted to solidify. The agar-filled ring was held in contact with the arm for fourteen to sixteen hours by means of a simple bandage. After this time the plastic ring was removed and examined microscopically. The presence of griseofulvin was indicated by distortion of the germinating spores.

Using this technique, they found griseofulvin at the base of the stratum corneum in forty-eight to seventy-two hours after initiation of daily 1 gm. doses. It was not, however, transported through the lower 25 per cent until six to twelve days and was not detectable in the mid-zone of the horny layer until twelve to nineteen days of therapy. Persons receiving a gram of the antibiotic daily for periods ranging from eighteen to fifty-six days failed to demonstrate conclusively the presence of active griseofulvin at the intact skin surface upon the termination of therapy. It has been suggested that griseofulvin may be leached from the outer skin surfaces by bathing.[21]

Limitations

Although there can be no doubt that this agent offers the first hope for consistent cures of ringworm, only the most naive would not anticipate the recognition of limitations, if one can judge from experience with other antibiotics. One might even predict a period of disillusionment with griseofulvin. Since the action is only fungistatic, griseofulvin may be proved eventually merely to complement the defenses of the host and thus be most effective in those diseases in which man's own resistance is highest. In fact, having opened the vistas, the greatest contribution of griseofulvin eventually may be only that of having introduced a new era in the treatment of superficial fungal diseases. Wilson [22] has said:

> "The ideal antifungal drug even for superficial mycoses would seem to be one which could be safely administered internally in amounts sufficient to endow the cells eventually destined to produce keratin with the power to resist fungi completely, this power persisting as they become keratinized, and the drug thus exerting its effects from within outward."

Griseofulvin has proven this concept.

References

1. Oxford, A. E., Raistrick, H., and Simonart, P.: Studies in the Biochemistry of Microorganisms. LX Griseofulvin, C_{17} H_{17} O_6 CL, a Metabolic Product of **Penicillium griseo-fulvum** Dierckx, Biochem. Jour., 33: 240, 1939.

2. Brian, P. W., Hemming, H. G., and McGowan, J. C.: Origin of a Toxicity to Mycorrhiza in Wareham Heath Soil, Nature, 155:637, 1945.

3. Brian, P. W.: Curling—factors, a Substance Causing Abnormal Development of Fungal Hyphae, Produced by **Penicillium zanczewski** Sal, Proceedings of the Fourth International Congress for Microbiology, Copenhagen, 1947.

4. Grove, J. F., and McGowan, J. C.: Indentity of Griseofulvin and "curling-factor", Nature, 160:574, 1947.

5. Brian, P. W., Wright, J. M., Stubbs, J., and Way, A. M.: Uptake of Antibiotic Metabolites of Soil Microorganisms by Plants, Nature, 167:347, 1951.

6. Report on Griseofulvin: A Review of Properties and Formulation for Agricultural Purposes, Glaxo Laboratories Ltd., Decemher, 1955, Cited by Flint, A., Forsey, R. R., and Usher, B., Canad. Med. Assoc. Journal, 81:173, 1959.

7. Brian, P. W.: Antibiotics as Systemic Fungicides and Bactericides, Ann. Appl. Biol., 39:434, 1952.

8. Raper, K. B., and Thom, C.: A Manual of the Penicillia, Williams and Wilkins, Baltimore, 1949.

9. Mulholland, T. P. C.: Griseofulvin, Part VI Chemistry of the Reduction Products, Chemical Society, London, part 3, 3994-4002.

10. Flint, A., Forsey, R. R., and Usher, B.: Griseofulvin, a new Oral Antibiotic for the Treatment of Fungous Infections of the Skin, 1959.

11. Pardo-Costello, V., Trespalacios, F., Farinas, P., and Baquero, G. F.: El tratamiento de las micosis superficiales de la piel con griseofulvin, Bol. Soc. Cubana Dermatolysifolografia, 16:1, 1959.

12. Gentles, J. C.: Experimental Ringworm in Guinea Pigs, Oral Treatment with Griseofulvin, Nature, 162:476, 1958.

13. Riehl, G.: Griseofulvin, an Orally Active Antibiotic, Proceedings of the Austrian Dermatological Society, Vienna, Austria, Cited by Riehl, G., Hautarzt, 10:136, 1959.

14. Williams, D. I., Marten, R. H., and Sakany, I.: Oral Treatment of Ringworm with Griseofulvin, Lancet, Part 2, 1212-1213, 1958.

15. Blank, H., and Roth, F. J.: The Treatment of Dermatomycoses with Orally Administered Griseofulvin, AMA Arch. Dermat., 79:259, 1959.

16. Goldman, L., Schwarz, J., Preston, R. H., Beyer, A., and Loutzenheiser, J.: Current Status of Griseofulvin, report on One Hundred Seventy-five Cases, JAMA, 172-533, 1960.

17. Antifungal Properties of Griseofulvin, Pharmaceutical J., London, 182:279, 1959.

18. Bedford, C., Child, K. J., and Tomich, E. G.: Spectrophoto-fluorometric assay of Griseofulvin, Nature, 184:364, 1959.

19. Gentles, J. C., Barnes, M. J., and Fantes, K. H.: Presence of Griseofulvin in Hair of Guinea Pigs after Oral Administration, Nature, 183:256, 1959.

20. Roth, F. J., Jr., and Blank, H.: The Bioassay of Griseofulvin in Human Stratum Corneum, Proceedings of the Second Conference on Medical Mycology of the New York Acad. Sci., Jan., 1960.

21. Roth, F. J., Jr., Personal Communication.

Importance of Introducing the Study of Hygiene into the Public and Other Schools

Stanford E. Chaille, M. D.

* * *

Surely, the "Good old times" did not exist for the human race at any of these periods, nor, indeed, at any time. Whoever maintains the contrary can still put it to the test * * * either by visiting savage Alaska, where women and children, as witches, are still tied to trees and left to starve or are hacked to death with knives; or by visiting barbarous Russia, where Jehovah's persecuted children now moan out the same agonizing cries, which were once heard to be heard in every Christian land. Many, who believe that they themselves have seen the times grow worse, have been misled by the fact that there have always existed evils, which, concealed from or unobserved by youth, are disclosed to experience so gradually that increasing knowledge is readily mistaken for an increasing growth of these evils.

Civilized men have undoubtedly made progress, and those of this generation greatly err, who, in their veneration for an ancient, therefore younger generation, forget that we ourselves belong to the oldest, therefore the most experienced, and therefore, in spite of all our monstrous follies, the wisest generation which has yet lived on earth.

New Orleans M. & S. J. 10:734 (April) 1882.

III. Tinea Capitis and Tinea Corporis

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CUTANEOUS infections caused by the dermatoycoses are prevalent, and are so varied in etiology and frequently mimicked by other cutaneous disorders which are not of fungal cause, that accurate diagnosis is of primary importance when a skin infection suspected of being of fungus cause is seen.

However, differentiating one kind of infection from another requires more than mere observation of the lesion, even for the experienced observer. We must first establish the fact that we are dealing with a fungus infection, then identify the pathogenic fungus itself, and subsequently keep an accurate check on the progress of therapy. For this the help of laboratory procedures with microscope, culture media, and Wood light is necessary. I would like to briefly summarize the methods which should be employed.

Method of Diagnosis

Whether the scrapings of skin, hair, etc. are to be used for direct microscopic examination or for a culture, it is advised that the skin be cleansed with 70 per cent alcohol prior to the examination so as to reduce the possibility of contaminants. The scraping is done with a scalpel, and the more material obtained the more likely a good examination.

From lesions of tinea corporis on the body or extremities, the active fungus is often more abundant at the periphery or advancing edge of the suspected lesion; whereas the center of the lesion is frequently fungus-free. The tops of vesicles are rich in fungus, but in some infections, the fungi are deep in the horny layer of the skin. In examination of the scalp, it is preferable to collect hair that is fluorescent under the Wood's light, although it should be remembered that not all organisms are fluorescent. Suspected hairs and scales from lesions on the scalp should be removed with the aid of a magnifying glass and the Wood light.

The specimens which are collected—scales, vesicles, hair shafts, or pus smears—are placed in the center of a glass slide and a few drops of 20 per cent potassium hydroxide are added and the preparation covered with a cover slip. The slide is warmed and then examined microscopically. Although positive findings can be made from these direct examinations, specific identification of the fungus must await cultures. This is particularly true because these various species of *Microsporum*, *Trichophyton*, and *Epidermophyton* present almost identical appearance with similar mycelia. However, in infected hairs, the arrangement and location of the spores offer a clue as to the infecting organism. The *Microsporum* forms a mosaic sheath of small spores that surround the outside of the hair shaft, whereas the *Trichophyton* shows large spores arranged in parallel rows or chains inside the shaft of the hair.

The standard culture media is Sabouraud's dextrose agar, although modifications of this formula are available commercially. The cultures are kept at room temperature for from two to four weeks. Identification of the various fungi is usually easily done by one who is experienced in their examination.

The Wood's light is not only a useful tool for early diagnosis of tinea capitis and for aiding collecting material for laboratory examination, but is also a great help in evaluating the progress of treatment and determining when all sites of infection are eradicated.

It should be pointed out, however, that fluorescence does not become obvious until some time after the onset of the infection, that in inflammatory lesions the hair stumps may be buried and fluorescence not easily observed, that non-fluor-

escent strains of *Microsporum* are occasionally encountered, and that during the course of treatment with topical medication, fluorescence pales and may be masked by the presence of a local medication. Hairs infected with *Microsporum audouini* and *Microsporum canis* usually show a bright yellowish-green fluorescence, whereas other pathogenic fungi either fail to fluoresce or do so weakly.

Differentiation

Tinea capitis is an important and widespread disease which constitutes a public health problem in many parts of the country and though it does not produce much disability, except in inflammatory infections, it is disfiguring, and the affected patient is inconvenienced by school health regulations and by burdensome treatment. Tinea capitis is caused only by species of *Microsporum* and *Trichophyton*.

M. audouini produces the most common type of tinea capitis in the United States and is principally a disease of children. It is said to be commonest in children between the ages of 3 and 8 years. The resistance shown by adults to infection with *M. audouini* has been attributed to a higher content of fungistatic fatty acids in the sebum after puberty. Although this theory is not completely proven, it has gained wide support and is logical since sebum has been shown to be fungistatic in vitro. The infection is very rare in adults and is likely to be of shorter duration than it is in children, and it is widely believed that the infection undergoes spontaneous remission at puberty. However, this does not occur rapidly.

Although by no means always true, transmission of the infection occurs most easily under conditions of crowding and poor hygiene, and is seen more frequently in children from poorer homes. Males are infected more frequently than are females, and this is perhaps because the shortness of the hair in the male allows the spores to reach the scalp much easier. It has been shown experimentally that dropping of the spores on the scalp's surface without trauma does not produce infection. Although direct contact is the most important source of infection, contaminated barber's instruments or combs may transmit the disease readily since the spores are implanted into the scalp with associated mild trauma. A great deal has been said about the role which theatre seats play in transmitting the infection, but it is the belief of many that this is of lesser importance than has been claimed.

The infected areas on the scalp are round or oval, and often fuse to form gyrate patterns, and are characterized by broken off hairs and partial alopecia. It is unusual to see ringworm of the scalp which is confined to a single patch, and it is also uncommon to see involvement of more than 50 per cent of the scalp's surface. In the early stages of the ringworm infection, while the patch is enlarging, the lesion may in all respects be similar to ringworm infection on the skin with an "active", slightly elevated border with the central area showing only scaling.

Characteristically, tinea capitis due to *M. audouini* is noninflammatory throughout the course of the disease. However, in a small percentage of cases, the lesion may be noninflammatory at the onset, and may develop later as a boggy tumefaction called a kerion.

It has been shown that the fungal elements rapidly reach a lower level in the hair which corresponds to the upper limit of the keratogenous zone of the hair matrix, a point about 0.5 mm. above the papilla, where the cells, although almost completely keratinized, still retain their nuclei. This zone, as well as the hair bulb itself, is never invaded and this demonstrates that the ringworm fungi cannot proliferate in viable or semiviable tissue.

Each infected hair is looked upon as a separate fungus colony, confined completely to the dead portions of the hair, and there the growth of the fungi downward and of the hair upward remain in perfect balance. Should the fungus fail to extend downward as fast as the hair grows, it would be pushed outward and

discarded. In addition to the growth of the fungi within the hair, the filaments which are close to the cuticle send out short external branches which break into chains of cuboidal, thick-walled spores, which form the ectothrix sheath. Although each infected hair is therefore surrounded by spores, these are dormant and have nothing to do with maintaining the infection in a particular hair, but do serve to disseminate the disease.

Tinea capitis due to *M. canis* is much more easily treated than *M. audouini* infections because the course of the disease is much shorter and there is a greater likelihood of an inflammatory response. The chief source of infection is domestic animals, particularly cats, hence the history of animal contact is ordinarily obtainable. The *M. canis* infection may remain noninflammatory throughout the course of the infection and thus be indistinguishable in all features from cases of *M. audouini* infection, except for a shorter duration.

Frequently, however, inflammatory changes develop with the resulting boggy tumefaction, which we call a kerion, with folliculopustules appearing over the surfact of the lesion, the hairs being spontaneously desquamated with temporary baldness resulting. Although the appearance of the inflammatory reaction may be so severe as to cause alarm and anticipation of permanent alopecia, this is quite uncommon, and it results only if there is severe secondary bacterial infection.

The disease regresses shortly after the onset of the inflammatory changes, but the shorter duration of this infection cannot be attributed entirely to this characteristic.

Tinea capitis due to *M. gypseum* is extremely rare and when it occurs, intense inflammatory kerions are present. Definitive diagnosis requires culture, and the treatment is similar to that of other varieties. Tinea capitis due to *T. mentagraphytes* is almost always associated with intense kerions, and is a rare condition. Again, culture is required for accurate diagnosis.

Tinea capitis due to *Trichophyton tonsurans* is highly prevalent in Mexico and is slowly spreading into certain states of the United States, specifically California and Texas. It is characterized by extreme chronicity and by easy escape from detection. It promises to become an entrenched Public Health problem. Although contagiousness is not great except under conditions of intimate contact, most or all of a family group acquire the infection. Moreover, adults are susceptible to this infection, although it usually occurs in children.

Therapy with Griseofulvin

The new systemic treatment with griseofulvin is the most exciting development in many years, and we can certainly say that griseofulvin is very efficient in tinea capitis, with brilliant results being obtained whether it be caused by *Microsporum canis* or *audouini*, or by *Trichophyton tonsurans*, or whether it be favus. Full dosage of this drug is required for treatment and is adjusted for weight of the patient.

After one week of therapy, little change is observed in the infected sites. At two weeks, fluorescence under Wood's light is in some cases faded to a fainter green, and by this time hairs are more resistant to plucking. After three weeks, the fluorescent zone of the infected hairs has grown out sufficiently to permit it to be clipped off. At twenty-eight days of treatment, some patients are completely Wood's light negative, and in others only scattered faintly fluorescent hairs persist.

Because faintly fluorescent hairs have been present for as long as eight weeks after the beginning of treatment and fungus-bearing stubs, scales, and debris have remained for as long as three months under continued therapy, clipping and shaving of the hair from the affected areas is advised beginning at about the twenty-first day and continued until a cure is obtained. Scrupulous cleanliness facilitates the removal of infectious scales and debris. It is advised that treatment be maintained until two cultures taken at

one week intervals are negative, and that a third culture two weeks after discontinuance of treatment be negative before the patient is discharged.

An incidental, but important, contribution of griseofulvin is in helping to reduce the necessity for radiation therapy. X-ray epilation in tinea capitis, particularly that caused by *M. audouini,* which for so long was a necessary procedure, has been rendered almost obsolete by the use of this anti-fungal antibiotic.

Other Therapeutic Measures

Certain other measures which are worthwhile in the treatment of tinea capitis are (1) clipping the hair short in boys, (2) the application of an anti-fungal agent locally, (3) training the child to use his own comb and brush exclusively, (4) the wearing of a stocking cap (or similar head covering) for the protection of other children, and (5) lastly, enlightining the parents on the significance of the disease and on the need for adequate treatment of the infected child.

Ringworm Infection of Other Areas

Superficial ringworm infections of areas other than the scalp, hands, feet and groin may appear in widely differing and sometimes confusing morphologic variations. Such lesions may vary from a mildly erythematous simple scaling process to massive and ulcerating granulomas. Any area of the glabrous skin may be involved and the infection may be caused by practically all of the various species of *Trichophyton* and *Microsporum.*

Unquestionably, heat and moisture strongly contribute to such infections, and in our temperate climate such infections are seen far more frequently during the hot summer months. The lesions ordinarily tend to remain localized and few in number, but may become extensive and confluent.

Fungus infections on the glabrous skin occur particularly in persons who may be repeatedly exposed to infected domestic animals, such as cats, or in persons with chronic fungal infections of the feet or nails, and in persons who are in close contact with others infected with certain types of fungus infections, particularly children with tinea capitis.

Ringworm infections on the non-hairy skin may mimic a great variety of other dermatoses, and sometimes it is almost impossible to make such a diagnosis without the aid of the microscope. Particularly, fungus infections may resemble seborrhoeic dermatitis, pityriasis rosea, psoriasis and certain granulomas. The reverse is also true, and we think that it is necessary that patients who are to receive this drug are actually infected with fungi.

Griseofulvin should be used with an appreciation of its real value, but also of its distinct limitations in superficial fungus infections. The drug is fungistatic, not fungicidal, and has proved effective against fungi belonging to three genera of the dermatophyte group: *Trichophyton, Microsporum* and *Epidermophyton.* A rather common superficial fungus infection, called Tinea versicolor, is not affected by the drug, and it is also ineffective against monilial infections, and the deep mycotic infections.

Griseofulvin is absorbed into growing basal cells of the epidermis as they become keratinized, and causes "curling" and stunts the hyphal tips of the invading fungi. With the growth checked by this fungistatic action, the fungi are cast off as keratin grows out and sloughs off. Healthy tissue replaces the infected keratin. The same action has been indicated as occurring in the infected hair of tinea capitis as described in previous paragraphs.

Indications

As has been illustrated earlier, it is extremely easy to ascertain whether or not a disease is caused by fungi by means of scraping and microscopic examination. Where there is only a single spot of tinea corporis, it is felt that griseofulvin is not indicated, inasmuch as there are still good topical medications for isolated body ringworm. On the other hand, if there are multiple areas and especially if the organ-

ism has been shown to be exceedingly resistant to local treatment, then certainly griseofulvin should be used along with proper local treatment. The most spectacular and most satisfying short term results reported so far with griseofulvin have been in patients who had fungus infections involving the glabrous skin. Probably this is most notable in those infections caused by *Trichophyton rubrum*. Until now, no therapy appeared to influence the eventual course of this disease significantly. Typically, this *T. rubrum* infection is characterized by a lack of spontaneous healing and by chronic extension, which may result in the formation of large scaling plaques which may resemble those of seborrhoeic dermatitis or of psoriasis with minimum scaling.

Patients with tinea corporis usually gain subjective relief after the fifth day of treatment with griseofulvin regardless of the causative organism or the duration of the condition, and involution of the lesions is complete and cultures are negative in from four to nine weeks of treatment. If symptomatic relief has not been observed in from three to seven days after the beginning of treatment, the diagnosis of a fungus infection due to a susceptible organism should be further checked by laboratory means.

The presently recommended dosage of griseofulvin for adults is 1 gram daily and for children the dosage is varied according to body weight. Of course, the length of therapy varies with the severity, the site of the infection and the response to treatment.

Our Yellow Fever, Sugar and Cotton Crops

Stanford E. Chaille, M. D.

Although yellow fever has greatly injured the past and threatens the future prosperity of New Orleans, yet, this community has, on no other practical subject, nursed so many inherited prejudices, and entertained so many unfounded and contradictory beliefs.

* * *

In an editorial, published January 10th, 1882, in that able and influential daily newspaper, the N. O. Times-Democrat, the following statement is made: "It has always been a noticeable fact that the best years agriculturally were the worst in point of comfort and health, just as the yield of sugar has been highest during epidemic visitations."

* * *

Cholera visited New Orleans first and most severely in 1832-33, yet, the sugar crops of these years were much exceeded by the succeeding healthy year, 1834.

* * *

During the past 60 years, New Orleans was ravaged by thirteen violent epidemics, viz: in 1822, '29, '33, '37, '39, '41, '47, '53, '55, '67, and '78. In only six of these years was the sugar crop unusually good. Therefore, the statement that "this yield of sugar has been highest during epidemic visitations" of yellow fever expresses only a somewhat frequent accident, and certainly not a general truth.

New Orleans M. & S. J. 10:683 (March) 1882.

IV. Tineal Infections in Intertriginous Areas and of the Nails

HENRY W. JOLLY, JR., M.D.
Baton Rouge

INTERTRIGINOUS dermatitis may be caused by many conditions other than tineal infections. Now, more than ever, a specific etiologic diagnosis is necessary in these areas for proper treatment.

Etiologic Diagnosis

In the axillae, intertriginous dermatitis may be due to seborrheic dermatitis, contact dermatitis (particularly notable are those due to deodorants and clothing), infection with the ordinary dermatophyte with which we are particularly concerned here today, erythrasma, moniliasis and true intertrigo with or without secondary bacterial infection.

The same differential diagnosis more or less holds true under the breasts with the exception of the examples of contact dermatitis mentioned above.

In the groin and peri-anal areas, when one studies a case of intertriginous dermatitis, one must consider Tinea, Monilia, neurodermatitis, Psoriasis and true physical intertrigo. The tineal infection may be either acute or the classical old chronic tineal infection (the so-called eczema marginatum) of the groin and butttocks with lichenified, hyperpigmented broad centers and excoriated papular borders.

On the feet, the intertriginous areas between the toes present a peculiar problem. Here is one area that, in the past, one felt rather secure in making a clinical diagnosis of tineal infection. It has been my experience that occasionally a typically tineal dermatitis between the toes clinically would repeatedly fail to show fungi either on a direct smear or on culture. A similar experience has recently been reported when a fairly large group of such cases were surveyed mycologically. The differential diagnosis here may lie between Tinea, Monilia, Psoriasis, contact dermatitis (particularly to shoes), dyshidrosis and the unclassified bacterial eczematous reactions.

With the advent of Griseofulvin, more than ever before, a positive diagnosis must be made by either a direct smear examination and/or a culture before treatment with this drug is started. The reasons are self evident for if the infection is not due to certain species of fungi, no improvement is noted. In addition, this is an expensive drug and valuable medical time and money will be wasted in cases where there is no rationale for its use.

Treatment

In general, results of treatment with Griseofulvin of intertriginous tineal infections with the usual organisms *(Trichophyton mentagrophytes, Trichophyton rubrum* and *Epidermophyton floccosum)* are good and relatively rapid when adequate doses are given. In adults, 1 gram per day, usually divided into four doses of 250 mg. each or two doses of 500 mg. each is the optimum dose. In children, approximately 25 mg. per kilogram of body weight is the optimum dose.

The symptoms, primarily itching, subside in a few days as a rule. Clinical improvement is manifest in seven to ten days and both clinical and mycological clearing can usually be expected in two to four weeks.

There is an exception in the case of the areas between the toes. Even after weeks of therapy, persistent fissures and maceration may still remain. These may or may not be mycologically positive which would bring one to a very academic question of whether the proven fungus infection were truly a primary disease or a secondary situation. None the less, this, the areas between the toes is one of slow response to the drug under question and a great potential focus for reinfection or relapse whichever the case may be.

It has not been my experience that all very acute infections will respond to Gris-

eofulvin. In some instances, I have had to resort to so called non-specific treatment of acute dermatitis initially and then use Griseofulvin. However, I have had several instances of acute tineal infection with lymphangitis and lymphadenitis which have responded to Griseofulvin alone. I recall one acute case where the patient developed an autosensitization reaction while on Griseofulvin.

Local treatment may be used as an adjuvant to systemic treatment, the local treatment being non-Griseofulvin in character for local Griseofulvin has not been proven to be of any value. In all the intertriginous areas, a fungistatic dusting powder day or night or the use of a fungistatic dusting powder in the day and a fungistatic cream at night may decrease the time of treatment necessary or eradicate persistent foci such as the areas between the toes.

Tineal Infections of the Nails

Diseases of the nails offer a diagnostic challenge in many cases. Even the clinical picture so characteristic of tineal onychomycosis may be perfectly imitated by psoriasis, yeast infection, hand eczemas, onycholysis, paronychia congenita, trauma, etc. In general, the picture is one of dulling or loss of lustre of the nail, separation of the nail plate from the nail bed with accumulation of cellular debris in this space, ultimately erosion and distortion of the nail plate.

As a rule, Tinea in the beginning is relatively non-inflammatory at the sides or the distal end of the nails, in distinction to monilial infections which usually start as a paronychial inflammatory reaction. Either organism should be identifiable in a smear and or culture. These procedures will also serve to rule in or out the other disease processes in the differential diagnosis.

Once the diagnosis has been established of tineal etiology, it will usually be *Trichophyton mentagrophytes, Trichophyton rubrum* or *Epidermophyton floccosum*. Treatment with Griseofulvin should be effective. There seems no reason why a dosage above 1 gram per day should be needed even in these cases and proportionate doses in children. They do require longer treatment periods than tineal infections of the skin. There is some individual variation in nail growth but in the beginning it was thought that for a diseased nail to be completely replaced normal nail requires three to four months of continuous oral therapy for finger nails and six to eight months for toenails. Subsequently, these time estimates have been prolonged.

Concomitant local therapy is probably beneficial both from the standpoint of final cure and to reduce the viability of the distal organisms still fairly distant from actual contact with Griseofulvin. These still viable organisms are a constant worry as far as reinfection is concerned although it is granted that it is rather unlikely that this will occur during active treatment. Removal of the nails is advocated by a few authors but not by most and I am of the latter school of thought. I believe that cutting the nails very short or grinding them down with a dental burr is of definite value. After this, the local applications of solutions containing fungistatic agents or creams containing fungistatic agents is probably wise.

Here again as was stated before under the subject of intertriginous infections, reinfections are possible, and even probable, particularly in people who apparently have no immunity or resistance to these types of fungus infections.

V. The Reactions to Griseofulvin

C. BARRETT KENNEDY, M. D.*
V. MEDD HENINGTON, M. D.†
WILLIAM J. PERRET, M. D.
New Orleans

IN the relatively short time that Griseofulvin has been on the market it has emerged as the drug of choice for superficial fungus infections due to dermatophytes. Its wide acceptance is not only due to its efficacy as a fungistatic agent but also, and more remarkably so, to the fact that reactions to it have been almost nonexistent. To our knowledge there has not been a fatal accident from this drug and nearly all of the reactions that have been reported have been in the nature of side effects rather than true reactions. As far as we know, this drug was subjected to the most careful laboratory and clinical investigative studies of any drug up to its time before being released for prescription use on private patients.

Laboratory Studies

In the experimental animal sublethal doses arrest mitosis in rapidly growing tissues. This suggested the advisability of performing periodic blood counts when administering Griseofulvin to humans. Kirk, et al,[1] did over 353 complete blood cell counts in children who received the drug and found no evidence of bone marrow depression. There have been a few isolated reports of transient leukopenia from Griseofulvin. Pipkin[2] found that his patients developed leukocytosis in response to intercurrent infection during Griseofulvin induced leukopenia.

Massive doses of Griseofulvin given intraperitoneally or intravenously have suppressed spermatogenesis in guinea pigs. Doses comparable to those in humans do not cause changes in the testes or impair fertility.[6]

Blank[3] did multiple sperm counts in a series of 15 patients and found no significant depression even in patients who had been taking Griseofulvin in a dosage of 1 gram daily for six months.

Sternberg[4] related that 92 patients with a variety of superficial fungus infections were treated with no clear-cut clinical or laboratory evidence of toxicity necessitating the permanent discontinuance of therapy. A variety of minor complaints developed during therapy but in a majority of instances were transient. He states that it was deemed wise for two of his patients to discontinue therapy temporarily because of the development in one of a generalized pruritis associated with a diffuse macular eruption, and in the other, because of the development of small urticarial lesions on the lower extremities. The drug in both instances, however, was reinstituted without return of symptoms. He also states that no significant abnormalities were observed in any of a series of laboratory studies obtained throughout therapy, including complete blood count, urinalysis and in some instances liver function tests. The side effects were blurring of vision, diarrhea, nausea, mild malaise, numbness of toes, urticaria, localized vesicular eruptions and generalized pruritis, macular eruptions, headache, dryness of the mouth, polyuria and thirst. Blank's[5] experience in a series of 200 patients was similar. He found headaches and minor gastrointestinal disturbances in a few cases and urticaria in 2. Side effects encountered by Goldman[6] and others have been much the same. Goldman reported that patients who had ulcerative colitis experienced some aggravation of their symptoms. Transient albuminuria has also been observed.[9]

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In the year book of drug therapy[7] it is stated that Griseofulvin is not an antibacterial antibiotic, and prolonged administration will not disturb the normal intestinal flora. Perhaps this is the reason we have had fewer cases of diarrhea.

Misuse of the Drug

It would be wise to say something about the misuse of this drug. It is not effective as a topical agent. It is not effective in tinea versicolor. In yeast infections there is some suspicion that the infection may be aggravated in some manner by this drug. We have seen many cases of yeast infections of the nails in which the druggists and lay people have prescribed Griseofulvin because they think all nail disorders are fungus infections and because Griseofulvin is good for fungus infection they reason that it is good for all types. We think it makes monilial nail infection worse.

It is doubtful that deep mycotic infections are affected by this drug, with the possible exception of Madura foot due to *Nocardia braziliensis*, as reported by Latapi.[8]

Control Studies

We agree with Goldman when he says that it can be stated that this new antibiotic will indeed produce a much needed renaissance in medical mycology. It is impossible to treat cases adequately with oral Griseofulvin without good mycological control studies. One should have cultures that show a true fungus and not yeast. We demonstrate the fungus by direct scraping or by culture before prescribing Griseofulvin.

With time we must know more about chronic toxicity because in some cases the need for long continued therapy is present. We need to know more about the effects of Griseofulvin on the patient's immune mechanisms. We already know that the drug is less effective in patients taking large doses of steroids, becoming more effective when the steroid dose is reduced.

Conclusion

The most significant conclusion that can be drawn from a study of the side effects and reactions to Griseofulvin is that it is a safe and valuable addition to our armamentarium for the treatment of superficial fungus infections. Until now no serious complications from its use have been reported.

References

1. Kirk, Jacquelyn and Ajello, Libero: Use of Griseofulvin in the Therapy of Tinea Capitis in Children, A.M.A. Arch. Dermat., 80:259 (Sept.) 1959.

2. Pipkin, Louis—Personal communication.

3. Blank, Harvey and Roth, Frank J.: The Treatment of Dermatomycoses with Orally Administered Griseofulvin. A.M.A. Arch. Dermat., 79:259 (March) 1959.

4. Sternberg, Thomas H. et als.: The Treatment of Superficial Fungus Infections in man with Orally Administered Griseofulvin." Current Therap. Research, 1:1 16 (Sept.) 1959.

5. Blank, Harvey: Smith, Jr., J. Graham: Roth, Frank J., Jr.; Zaias, Nardo: Griseofulvin for the Systemic Treatment of Dermatomycoses. J.A.M.A., 171: 2168 (Dec. 19) 1959.

6. Goldman, Leon: Some Investigative Problems of the New Oral Fungistatic Agent, Griseofulvin. Connecticut Medicine, 23:638 (October) 1959.

7. Beckman, Harry, Year Book of Drug Therapy 1959-1960 series. The Year Book Publishers, Inc., 200 East Illinois Street, Chicago.

8. Latapi, Fernando, Lavalle, Pedro, Novales, Josefa; Ortiz, Yolanda: Griseofulvina en micosis cutaneas profundas. Dermatologia, Revista Mexicana, 3:39 (Jan.-Mar.) 1959.

9. Livingood, Clarence S.: Round-table discussion on Griseofulvin. Annual Meeting of the American Academy of Dermatology and Syphilology, Chicago, December 10, 1959. "Doctor to Doctor," No. 7, Schering Corporation, Bloomfield, New Jersey.

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Editorial

Officers of the Louisiana State Medical Society And the House of Delegates

The membership have cause for congratulation and satisfaction in the officers chosen for the coming year at its meeting on May 8th, 9th, and 10th.

Those elected to office have ability and experience such as will make them capable of the leadership, guidance, and direction, which the Society will need in the months ahead.

The President is Dr. Cuthbert J. Brown, a well known surgeon of New Orleans, who has acquitted himself nobly in the service of organized medicine over a period of many years. He is a Past President of the Orleans Parish Medical Society. He has served in various capacities as a member of the Executive Committee of the State Society. He has been Chairman of the Legislative Committee of the State Society for Congressional legislation, and has a broad contact with the problems of practice, as well as with the socio-economic problems of organized medicine. In the position of leader for the next year, the physicians of the State can take great satisfaction in his qualities of judgment and stability.

The President Elect is Dr. Ralph H. Riggs of Shreveport, who has had many years of experience both in his local and State Society affairs. He has been President of the Caddo Parish Medical Society and has continued to be active and effective in its affairs. He has served for years in various capacities on the Executive Committee, has been an alternate and a delegate to the House of Delegates of the American Medical Association, and is nationally known as a surgeon in the field of rhinology. His breadth of view and sincere good will for what is best in organized medicine is well known.

The First Vice President is Dr. J. Theo. Brierre of New Orleans, a radiologist. Dr. Brierre has long been active in the Orleans Parish Medical Society. He

is President of that Society at the present time, and has served in various capacities as a member of the Executive Committee of the State Society. His energy and experience commend him to the membership in this important position.

Dr. Gordon W. Peek of Baton Rouge is the Second Vice President, and comes to the Executive Committee with a long record of creditable activity in leadership of the East Baton Rouge Parish Medical Society of which he is a Past President. He is a surgeon with a long record of knowing what is best for patients and what is best for organized medicine.

The Third Vice President is Dr. Eugene H. Countiss of New Orleans, a gynecologist, who was Chairman of arrangements for the recent successful meeting of the State Society in New Orleans. Dr. Countiss has been active in the Orleans Parish Medical Society for over twenty years, has held many offices in it, and has been a member of the Executive Committee of the State Society in various capacities. His poise, judgment, and keen sense of ethical values fit him for this important position on the Executive Committee.

Dr. C. Grenes Cole continues as Secretary-Treasurer providing satisfaction and security to the membership, with the blessings of all. His mature judgment, vast experience, and never-ending resourcefulness continue to help in the delineation of policy and in the achievement of difficult tasks.

The memberships in the Executive Committee are otherwise unchanged. Dr. O. B. Owens becomes Past President in which situation he will continue to give valuable aid and counsel and allow this Society the benefit from his experience and highly successful years in his activities as President.

Dr. Charles B. Odom continues as Chairman of the House of Delegates, in which position the membership is highly appreciative of the dispatch and consideration given to the handling of a difficult assignment.

Dr. H. H. Hardy of Alexandria is again Vice-Chairman and continues to give valuable aid and assistance to the Chairman and to the Executive Committee.

Drs. Guy R. Jones of Lockport, John L. Beven of Baton Rouge, J. Y. Garber of Lake Charles, and R. E. C. Miller of Alexandria, were re-elected in their positions as Councilors for the Third, Sixth, Seventh, and Eight Districts. The composition of the Council is unchanged and it is in a position to continue its important functions as both the watch dog and the conscience of the Society. We are fortunate that the Council has members of such broad experience and proven ability.

Additional members who are not actually officers of the Society in their new positions, but who have served the organization long and well are Drs. Arthur Long and Rhett McMahon, who have been elected to the House of Delegates of the American Medical Association. Both are Past Presidents of the State Society and both will be valuable representatives for the Society in that body. This gives the Louisiana State Medical Society three delegates on the floor of the House of Delegates of the American Medical Association, where their effectiveness is in direct proportion to the square of the number present.

The physicians of Louisiana can feel that the officers they have chosen will do credit to the organization.



ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

ABSTRACTED MIINUTES HOUSE OF DELEGATES

May, 1961

Minutes

Minutes of 1960 meeting and special meeting of *House of Delegates* on March 5, 1961, approved as recorded.

Minutes of *Executive Committee* since 1960 meeting of House of Delegates, approved as recorded.

Special Order

Announcement of appointment of Dr. Felix A. Planche as *member of the Committee on Budget and Finance.*

Addresses by Dr. Edward R. Annis, Miami; Dr. W. W. Bauer, Chicago; Dr. Roy T. Lester, Washington, D. C. and Mr. St. Clair Adams, New Orleans.

Introduction of *new members of House of Delegates.*

Greetings from representatives of *Woman's Auxiliary* of the State Society.

Roll of *members who died since 1960 Annual Meeting* read and members of House stood in honor of these members.

Message to Dr. Edwin L. Zander, Dr. Emmett L. Irwin and Dr. W. Robyn Hardy in re *illness and absence from meeting.*

Flowers to Mrs. O. B. Owens, *wife of president of the State Society,* absent from the meeting due to emergency surgery.

Announcement of *scientific exhibit awards:* First place, Drs. Buchtel, Kirgis, Jackson, DeCamp and Ochsner. Second place, Drs. Adriani and Sessions.

Reports without Recommendations

President: Referred to Committee on President's Report and report of this Committee commending the president and heartily endorsing his actions, was accepted.

Following *reports accepted as printed:* Secretary-Treasurer, Chairman of Council, *Councilors:* Second District, Third District, Fourth District, Fifth District, Sixth District, Seventh District, Eighth District; *Committees:* Accreditation of Hospitals, Aid to Indigent Members, Alcoholism, American Medical Education Foundation, Arrangements—1961 Annual Meeting, Blood Banks, Budget and Finance, Child Health, Chronic Diseases, Committees, Congressional Matters, Department of Public Welfare (Advisory Committee, Domicile, Gamma Globulin and Salk Vaccine, Geriatrics, Historian, Hospitals, Industrial Health, Lectures for Colored Physicians, Liaison with Louisiana States Nurses Association, Maternal Welfare, Mediation, Medical and Hospital Service in re Insurance Contracts, Medical Defense, Medical Education, Medical Testimony, National Emergency Medical Service, Neuropsychiatric Service at Charity Hospitals, Public Health of the State of Louisiana, Revision of Charter, Constitution and By-Laws, Rural and Urban Health, Scientific Work, State Hospital Policies and Medical Indigency, Tetanus Protection, Woman's Auxiliary.

Other reports, containing no recommendations, accepted: Louisiana State Board of Medical Examiners (announcement that Dr. Charles B. Odom had been appointed to replace Dr. E. L. Leckert, resigned); Public Relations Counselors, Legislative Consultant and delegate to American Medical Association.

Reports with Recommendations

Past Presidents Advisory Council: 1. A message be sent to Dr. E. L. Zander, who is ill, wishing him a speedy recovery: Referred to Committee on Resolutions. 2. The House of Delegates urge the sheriffs and district attorneys of the various parishes to enforce the provisions of the Medical Practice Act and the House of Delegates request the component societies to contact their sheriffs and district attorneys to endeavor to influence them to enforce the Medical Practice Act: Approved. 3. A bronze plaque be struck and presented to Dr. E. L. Leckert in the name of the Society in recognition of volunteer service to Medicine in this City: Approved. 4. This plaque be placed in the domicile of the State Medical Society and a framed photograph of same be sent to the recipient: Approved. 5. The President of the Society appoint a special committee to study the feasibility of establishing a Hall of Fame for Medicine in Louisiana and that this committee report back to the next regular meeting: Approved. 6. The House of Delegates approve the Kerr-Mills Bill and that it condemn the Anderson-King Bill: Approved.

Councilor of First District: 1. (Reworded at time of meeting, as follows): (a) An active member who has reached 70 years of age and has been an active member of the State Society for 25 years will be made an active dues exempt member with all rights and benefits of an active member as long as he is practicing; (b) An associate member who has reached 70 years of age and has been an associate member of the State Society for 25 years will be made a dues exempt member with all rights of an associate member: Referred

back to the Committee on Revision of the Charter, Constitution and By-Laws, for report to the Executive Committee. 2. The proper committee consider the problem of collection of physicians' fees when a patient is covered by insurance: Referred to the Committee on Insurance, for report to the Executive Committee and legal counsel be obtained concerning the matter.

Committee on Budget and Finance: (Recommendations concerning matters referred to the Committee during time of the meeting). 1. Disapproval of proposal that the president of the State Society be paid a salary of $6,000.00 per annum: Approved. 2. The House of Delegates decline a reconsideration of the subject of purchase of the History of the Louisiana State Medical Society: Approved. 3. An amount of $150.00 be appropriated to defray expense in striking a plaque honoring Dr. E. L. Leckert, as recommended by the Past Presidents Advisory Council: Approved.

Cancer Commission: 1. Members of the Society be urged to continue and intensify their interest and activities in lay and professional education concerning cancer, further development and utilization of cytologic diagnostic methods, and improvement of facilities for caring for terminal cancer cases in both private and charity hospitals: Approved. 2. Amount of Five Hundred Dollars ($500.00) be budgeted for use, if necessary, by the Cancer Commission for carrying out its various functions during the coming year: Approved. (Appropriation previously approved by Committee on Budget and Finance.)

Committee on Diabetes: 1. Committee on Diabetes be continued and made more active: Approved.

Committee on Federal Medical Services: 1. Wider publicity, by members, to the programs advanced by AMA and allied professional groups with regard to providing improved private medical care for the aged (10 point program): Approved. 2. Endorsement of the AMA position that federal medical care responsibility for veterans be limited to service-connected illness and injuries: Approved. 3. Continued and increased leadership in planning and training of the medical profession and allied fields in the problems of disaster medical care: Approved. 4. Every member of the State Society be sent a copy of "Third Party Interference, the Practice of Medicine and the Market Economy" pamphlet published by the Association of American Physicians and Surgeons: Approved.

Committee on Insurance: (Recommendations recorded at time of meeting). 1. Continuation of this Committee: Approved. 2. Whenever the Committee is ready to make a specific presentation of a program it should first be presented to the Executive Committee: Approved. 3. The Committee be allowed to consider all possible programs for malpractice insurance, including that of an independent broker for this type of insurance: Approved. 4. If a program is submitted by an independent broker for malpractice insurance and is accepted by the Executive Committee, then that broker automatically becomes the broker of record for malpractice insurance: Approved. 5. Acceptance of proposed investment and retirement plan as submitted by the Pan American Life Insurance Company and the National American Bank: Recommendation not approved. Motion made and carried that the Insurance Committee be given authority to recommend companies to the Executive Committee for final approval and that all plans to be accepted be screened by the Insurance Committee and approved by the Executive Committee.

Committee on Journal: 1. Re-election of Dr. Sam Hobson and Dr. J. E. Knighton as members of the Committee on Journal: Referred to Nominating Committee and upon acceptance of report of this Committee Drs. Hobson and Knighton were re-elected.

Committee on Liaison with Louisiana State Bar Association: 1. Committee on Liaison with Louisiana State Bar Association be continued: Approved. Proposed inter-professional code was submitted and House of Delegates went on record as accepting report of the Committee and referred the code to the Executive Committee for further consideration; an opinion to be secured from the Bar Association before final adoption.

Committee on Liaison with Louisiana Hospital and Nurses Associations: 1. Participation by the Louisiana State Medical Society in this three-party conference be continued: Approved.

Committee on Louisiana Organizations for State Legislation: 1. Committee on LOSL be continued: Approved.

Committee on Mental Health: 1. Recommendation be made to appropriate authorities that a fully qualified administrative psychiatrist be secured to administer the State Mental Health Program: Not approved. 2. The Society stimulate conferences focused on ways to close the gap between Organized Medicine and the public mental hospitals: Not approved. 3. The State Society encourage parish and district societies to include more presentations on mental health in their programs: Not approved. 4. The State Society encourage development of conferences on psychiatric orientation of non-psychiatric physicians: Not approved. 5. The State Society encourage the parish societies and its members to take active part in educational programs in mental health for the general public: Not approved. 6. Wherever applicable interest in programs for the mentally retarded be included as a part of the above recommendations: Not approved. 7. The Committee on Mental Health be made a standing committee of the Louisiana State Medical Society, and it be composed of members with overlapping terms: Not approved. 8. The Committee on Men-

tal Health be recognized by the State Society as the body for liaison with the Governor, State Department of Hospitals, and State Department of Institutions in matters of mental health: Not approved.

Committee on Public Policy and Legislation: 1. Favor implementation of Kerr-Mills program by fostering appropriate State legislation: Approved. 2. Favor passage of legislation which would establish a hospital standard setting authority so that complete participation in Kerr-Mills benefits will be available to citizens of Louisiana: Approved. 3. Favor passage of a "Good Samaritan" law: Approved. 4. Favor restriction of the use of ionizing radiation to qualified personnel: Approved. 5. Favor passage of legislation for the protection of blood banks from unjustified law suits: Approved. Discussion of proposed legislation concerning standard-setting of hospitals and report that considerable favorable comment has been received from members of the Legislature concerning the First Aid Station.

Committee on Resolutions: 1. A copy of these resolutions be sent to each person and organization mentioned and also published in The Journal of the Louisiana State Medical Society: Approved.

Committee on Revision of Charter, Constitution and By-Laws: 1. The House of Delegates take no action with regard to membership, with deletion of dues, for active members who reach the age of seventy years and have been members for twenty-five or more years: No action due to action on recommendation of Councilor of First District (subject referred back to this Committee for report to the Executive Committee).

Council on Medical Service and Public Relations: 1. Utilize every means possible (publicity, personal appearances by officers before civic groups, etc.) to intensify the campaign against legislation which would include health care in the Social Security program; as part of the anti-Forand campaign, support for the full acceptance of the Kerr-Mills law for meeting medical needs for the aged is necessary: Approved. 2. Conduct a program through high schools in the State to encourage medical careers; supplying the vocational guidance counselors in each school with information on and the educational qualifications for various medical careers: Approved. 3. Combat and expose cultism, medical faddism, and quackery of all types; in addition to present anti-chiropractic efforts and coordinated with it: Approved, with deletion of "in addition to present anti-chiropractic efforts and coordinated with it". 4. As quickly as possible after the next election of state legislators, publish an updated version of the legislative directory: Approved. 5. Conduct an annual fireworks safety campaign through various publicity outlets in conjunction with the Fourth of July and New Year holidays: Approved. 6. Showing of health exhibits for laymen at three selected parish fairs: Approved. 7. Continuation of CAPSULES: Approved. 8. Continuation of existing educational campaigns such as tetanus, polio and diphtheria: Approved. Motion was made and adopted that the Council try to institute weekly television programs.

Amendments

Final adoption of following amendments approved at 1960 Annual Meeting.

Constitution

Article IV—Composition of the Society: Add "resident" to intern members and change "inactive" to "active dues exempt".

Article IV—Section 3. Honorary Members: Delete "but shall not be permitted to hold office".

Article IV — Section 4. Inactive Members: Change "inactive" to "active dues exmpt" and delete "nor shall they be eligible to hold office". Add "They shall be eligible to vote and hold office".

Article IV—Section 5. Intern Members: Change to "Intern/Resident" members.

Article VII—House of Delegates: Reword last part as follows :" . . . (3) an Advisory Body composed of Past Presidents with full voting power".

Article X—Section 1. Officers: Add "for one year following his retirement" in re term of office of retiring president.

Article X—Section 3. Officers: Add "nominated on the first day of the annual session by the House of Delegates and".

Article XIV — Amendments: Change "registered" to "present" in re vote of delegates.

Other Action

President of Louisiana State Medical Society encouraged to appoint a *committee to work with the Department of Rehabilitation* in the same manner as the Advisory Committee to the Department of Welfare.

Recommendations of Rapides Parish Medical Society: 1. The president of the State Society be paid a gratuity of $6,000.00 per annum in addition to the usual incurred expenses: Referred to the Committee on Budget and Finance and recommendation of that Committee that this recommendation be rejected, adopted. 2. All members of the Louisiana State Medical Society be members of the American Medical Association: Referred to the Executive Committee.

Resignation of Dr. Ralph H. Riggs as *AMA delegate for 1961* accepted. (Dr. Rhett G. McMahon, Alternate to serve in 1961).

Resignation of Dr. Walter Moss as *alternate AMA delegate for 1961 and 1962* accepted. (Dr. R. T. Lucas elected to replace Dr. Moss).

Resolutions

Dr. C. E. Boyd: Firmly believing that a few flowers should be given him who has earned our praise and thanks while he still has some olfactory sense, I would like to bring to your

attention a gentleman who was born in 1889 at Greensburg, Louisiana, who was educated and trained in Louisiana schools; who practiced his profession as a surgeon with distinction; who taught at Louisiana State University Medical School and Tulane Medical School; who is a past president of the Orleans Parish Medical Society and the Louisiana State Medical Society, serving both organizations well and faithfully in many capacities; who served the people of New Orleans as coroner for sixteen years; and who has given of himself unselfishly for the protection of the public and the profession against quacks, charlatans, corrupt politicians, and all other enemies. This gentleman is C. Grenes Cole, who has served us so well as Secretary-Treasurer of the Louisiana State Medical Society since 1950. He is not only renowned for his many accomplishments, a few of which have been called to your attention, but also for his inexhaustible witty stories. Although some of us have had various disagreements with him, no one can doubt his devotion to duty and to his beloved medical profession. Therefore, be it resolved that the House of Delegates give our Secretary, C. Grenes Cole, a rising vote of thanks, and that a picture or painting of him be placed in the office of the Louisiana State Medical Society, properly inscribed, as a living memorial of our esteem. Be it further resolved that the amount expended and the execution of this resolution be placed in the hands of the Budget and Finance Committee: Adopted.

Shreveport Medical Society: Whereas, The Social Security Amendments of 1960 to Public Law 86-778 will, in all probability, be implemented in the State of Louisiana in the near future; and Whereas, The amended Act implies that a direct vendor payment plan be utilized to furnish medical assistance on behalf of aged individuals; and Whereas, The Act amended provides for the establishment or designation of a state agency to administer the plan or provide for the establishment, or designation of a state agency to supervise the administration of a plan whereby intermediary agency can be utilized; and Whereas, It is the opinion of the members of the Shreveport Medical Society that the direct payment for services rendered under this Act by a governmental agency to any hospital, nursing home, or other institution poses a potential threat of control to such organizations, but that this should be a matter to be resolved between the governmental agency, the Louisiana Hospital Association and the Louisiana Medical Society, that on this matter the Shreveport Medical Society offers no opinion. However, the direct payment to physicians for medical services by any governmental agency constitutes a real and imminent danger to the medical profession and a serious threat to physician-patient relationship, and that this method of payment to physicians directly by a governmental agency is herewith opposed; therefore be it Resolved, That the President of the Louisiana Medical Society, the members of the Executive Committee and all other appropriate committees of the Louisiana State Medical Society make every effort to secure a method of payment for physicians' services rendered to both in-patients and out-patients whereby direct payment by governmental agency is not made, and that some intermediary agency be utilized and that such checks for payment require endorsement by both patient and physician: Referred to the Committee on Public Policy and Legislation.

Dr. J. C. Stovall: Be It Resolved That—The implementation of Public Law 86-778, commonly known as the Kerr-Mills Bill, be approved by the House of Delegates of the Louisiana State Medical Society and that the method of implementation be delegated to the Committee on Public Policy and Legislation of the Louisiana State Medical Society and that it be done in the interest of the practice of private medicine for the welfare of the recipients and that if feasible it be done through an intermediary agent rather than directly through a governmental agency: Adopted.

Louisiana Public Health Association: Whereas, there are over 100 community health programs in Louisiana administered by over 30 state agencies and, Whereas, this fragmentation of administration and operation of health services has occurred with increasing momentum during the past 25 years and, Whereas, this fragmentation fosters waste of state funds, and resources, decreases efficiency and quality of services rendered and makes it more difficult for those in need to obtain necessary services, Therefore be it resolved that this fragmentation of services be brought to the attention of the Governor, to the State Legislature and to the State Medical Society and, Be It Further Resolved that the above parties be requested to study this problem thoroughly for the purpose of finding a satisfactory solution for the benefit of the people of Louisiana: Referred to the Committee on Public Health of the State of Louisiana, for report to the Executive Committee.

Louisiana Public Health Association: Whereas, the recently passed Kerr-Mills Act is in the process of being implemented nationwide, and Whereas, enough time has not elapsed to evaluate how effectively this Bill will meet the needs of the aged and, Whereas, further sound legislation pertaining to the aged can only be based on the experiences gained from the full operation and evaluation of the Kerr-Mills Act, Therefore, Be It Resolved, that new legislation pertaining to the health problems and care for the aged not be considered by the U. S. Congress until

full information on the effectiveness of the Kerr-Mills Act becomes available, Therefore be it Resolved that this resolution be brought to the attention of the Louisiana State Medical Society and component member societies, the House and Senate, members from Louisiana: Referred to the Committee on Public Health of the State of Louisiana, for report to the Executive Committee.

Dr. Walter Moss: Whereas, more and more State operated community health programs are being established in a wide variety of aggressive lay agencies rather than under medically directed agencies, and Whereas, the above process of fragmenting community health services increases the cost of these services unnecessarily, decreases the quality and creates confusion in rendering these services, frustrates the people who need to avail themselves of these services, and makes it impossible for the medical profession to guard adequately the operations and development of State health programs, and Whereas, medical administration and medical direction are essential for competent operation of all health programs, Now, Therefore Be It Resolved by this House of Delegates of the Louisiana State Medical Society: That a committee be established to study the problems of organization, administration and all the other aspects of State government health services for the purpose of keeping the medical profession informed concerning these matters and for supplying pertinent and accurate data for guiding the actions of this Society, and That the House of Delegates go on record in urging that all governmentally operated health programs be placed under the direction of a medically directed agency. That the latter action be communicated to the State Legislators and other proper state authorities: Adopted—president to appoint a special committee to implement this program.

Matters Discussed—No Action Taken

National Emergency Medical Services.

Suggestion that the Secretary-Treasurer keep members of the Society informed through CAPSULES concerning the *hospital licensing law.*

Suggestion that Chairman of Arrangements for future meetings provides for a refreshment or snack bar near the meeting room.

Election of Officers, Delegates and Alternates to AMA and Committees

President-elect—Dr. Ralph H. Riggs, Shreveport

First Vice-President—Dr. J. Theo Brierre, New Orleans

Second Vice-President—Dr. Gordon W. Peek, Baton Rouge

Third Vice-President—Dr. Eugene H. Countiss, New Orleans

Chairman, House of Delegates—Dr. Charles B. Odom, New Orleans

Vice-Chairman, House of Delegates—Dr. H. H. Hardy, Jr., Alexandria

Councilor, Third District—Dr. Guy R. Jones, Lockport

Councilor, Sixth District—Dr. John L. Beven, Baton Rouge

Councilor, Seventh District—Dr. J. Y. Garber, Lake Charles

Councilor, Eighth District—Dr. R. E. C. Miller, Alexandria

Delegate to AMA—1962 and 1963—Dr. O. B. Owens, Alexandria

Alternate Delegate to AMA—1962 and 1963—Dr. Rhett G. McMahon, Baton Rouge (Alternate to Dr. Owens)

Alternate Delegate to AMA—1961 and 1962—Dr. Robert T. Lucas, Shreveport (Alternate to Dr. Long)

Committee on Committees: Dr. Edwin L. Zander, New Orleans, Chairman; Dr. Rhett G. McMahon, Baton Rouge and Dr. J. Kelly Stone, New Orleans.

Committee on Journal: Dr. Sam Hobson, New Orleans and Dr. J. E. Knighton, Shreveport.

Committee on Medical Defense: Dr. J. Kelly Stone, New Orleans.

Committee on Public Policy and Legislation: Dr. Jos. A. Sabatier, Baton Rouge, Chairman; Dr. N. J. Chetta, New Orleans; Dr. J. E. Clayton, Norco; Dr. Leo J. Kerne, Thibodaux; Dr. C. E. Boyd, Shreveport; Dr. E. J. Brown, Monroe; Dr. Jack Thielen, Lake Charles, Dr. F. P. Bordelon, Marksville.

Committee on Scientific Work: Dr. Sam Hobson, New Orleans and Dr. S. L. Gill, Shreveport.

Future Annual Meetings

Dates and Places: 1962—Monroe, May 7-9; 1963—New Orleans, May 6-8; 1964—Lafayette; 1965—New Orleans, May 3-5.

Discussion was held concerning possibility of considering the Gulf Coast for future meetings and this subject was referred to the Executive Committee for study.

REPORT OF COMMITTEE ON MEDICAL DEFENSE

In the twelve-month period, March 1, 1960 to March 1, 1961, this Committee has received four requests for legal assistance in claims of malpractice, as follows:

1. Claims aggregating $208,000.00 against a doctor and his insurer alleging malpractice arising from a bladder operation. Defense approved in October, 1960. No further action reported.

2. Suit for $76,000.00 claiming negligence following the death of a child from complications following measles. No action in this case reported.

3. Suit for $106,374.53 claiming negligence fol-

lowing an injury of the foot allegedly caused by a fish bone. No action reported.

4. Suit for $50,000.00 arising from postoperative wound infection. Case withdrawn.

The case in the 1959-60 report, claiming malpractice in an obstetrical patient, has been dismissed.

There is no further action to be reported in any of the other cases previously presented.

C. B. ERICKSON, M. D., Chairman

REPORT OF COMMITTEE ON RESOLUTIONS

The members and guests in attendance at the 1961 Annual Meeting of the Louisiana State Medical Society held in New Orleans May 8-10 wish to acknowledge, with thanks, assistance rendered by the following individuals and groups:

Dr. J. Theo Brierre, President; Dr. Eugene H. Countiss, Chairman, personnel of Committees on Arrangements and all members of the Orleans Parish Medical Society, hosts to the meeting.

Rev. Albert B. Link who offered the invocation at the official opening meeting of the Society.

Hon. James E. Fitzmorris, Jr., Councilman of the City of New Orleans for his cordial welcome to the city.

Dr. M. E. St. Martin, President, New Orleans Graduate Medical Assembly, for his words of welcome.

Dr. Edward R. Annis, of Miami, for his talk before the House of Delegates and for a most interesting presentation at the opening meeting.

Dr. W. W. Bauer and Dr. Roy T. Lester for their interesting reports concerning activities of the AMA.

The Chairman of the various scientific sessions and the following out-of-state guests who participated in the scientific program:

Dr. James S. May, Dallas, Texas
Dr. John Edmund Skogland, Houston, Texas
Dr. Herbert M. Stauffer, Philadelphia, Pennsylvania
Dr. James Sherwood Taylor, Little Rock, Arkansas
Dr. Frederick Zuspan, Augusta, Georgia

The New Orleans papers as well as the press throughout the State for publicity prior to and during the time of the meeting.

Radio and TV stations in New Orleans and throughout the State, for excellent cooperation in broadcasting specific phases of the meeting.

The Hotel Roosevelt, Headquarters for the meeting, for excellent services rendered members attending the meeting, as well as facilities for various sessions in connection with the meeting; also other hotels and motels in New Orleans for accommodations furnished.

The Catholic Physicians Guild of New Orleans for arranging a Memorial Mass in memory of those members of the Society who died during the past year.

Mr. Paul J. Perret and Mr. Paul R. Kalman, Jr., who rendered a most valuable service prior to and during the meeting as Public Relations Counselors in securing publicity for the meeting; also for their report presented to the House of Delegates.

Mr. Percy J. Landry, Jr., Legislative Consultant, who has continued to be most helpful to the medical profession, for his informative talk before the House of Delegates.

Scientific exhibitors whose exhibits add much interest to the meeting.

Pharmaceutical, surgical and other companies and organizations for their continued cooperation in having technical exhibits.

All companies who purchased space for advertising in the Program.

The New Orleans Country Club for facilities furnished for the golf tournament.

Dr. Edwin H. Lawson, Secretary of the Louisiana State Board of Medical Examiners for his report submitted to the House of Delegates.

Officers and members of the Woman's Auxiliary who prepared an interesting program for the members of the Auxiliary.

Dr. O. B. Owens who has served so capably during the past year as President of this organization.

The Past Presidents Advisory Council for report to the House of Delegates and their continued active interest in the organization.

Dr. Charles B. Odom, Chairman of the House of Delegates.

Dr. C. Grenes Cole, Secretary-Treasurer who has continued to render invaluable service to the organization.

Miss Annie Mae Shoemaker, Assistant Secretary-Treasurer and the entire secretarial staff for their efficient handling of details prior to and during the time of the meeting.

Recommendation

It is recommended that a copy of these resolutions be sent to each person and organization mentioned and also published in The Journal of the Louisiana State Medical Society.

ARTHUR D. LONG, M. D., Member
C. J. TRIPOLI, M. D., Member
SAM HOBSON, M. D., Chairman

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Jefferson	Third Thursday of every month	
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

AMERICAN CANCER SOCIETY

Topic for the 1961 Scientific Session of the American Cancer Society is "The Physician and the Total Care of the Cancer Patient." This session will be held at the Biltmore Hotel, New York City, on October 23 and 24, 1961.

Further information may be obtained by writing Professional Education Section, American Cancer Society, 521 West 57th Street, New York 19.

DR. RUBIN RECIPIENT OF AXSON-CHOPPIN AWARD

Dr. Wallace Rubin, New Orleans ear, nose and throat specialist, was the recipient of one of the Louisiana Public Health Association's highest awards, presented during the association's annual meeting in Alexandria, April 27-28.

Dr. Rubin was given the Axson - Choppin Award for his efforts in stimulating the organization of the Louisiana State Board of Health's hearing conservation program. The award is made each year for "significant longtime activity to foster the public health program in Louisiana or any part thereof by an individual not in full-time employment by an official public health agency."

Making the presentation, Clifton Lawrence of the State Board of Health described Dr. Rubin as one of the principal forces in developing the program. Organized in 1954 by the State Board of Health's dental and school health section, the program is designed to insure the early discovery, diagnosis and treatment of hearing loss among school children. Dr. Rubin has been chairman of the program's otological advisory committee since its origin in 1957 to advise the health department on medical aspects.

According to Mr. Lawrence, Dr. Rubin visited ear, nose and throat specialists throughout the state at his own expense and gained their support. He also took time from his private practice to hold trial clinics in various localities. Dr. Rubin is on the staff of the Eye, Ear, Nose and Throat Hospital and teaches at Charity Hospital.

AMERICAN PHYSICIANS ART ASSOCIATION

The 24th Annual Exhibition of the American Physicians Art Association will be held from June 26th to 30th in New York City in conjunction with the annual meeting of the American Medical Association. The exhibit will include works of sculpture, painting, crafts and photography by physicians throughout the United States.

Further information can be obtained from Alfred A. Richman, M. D., secretary, 307 Second Avenue, New York 3, N. Y.

AMERICAN COLLEGE OF CHEST PHYSICIANS POSTGRADUATE COURSES

The Council on Postgraduate Medical Education of the American College of Chest Physicians will present the following postgraduate courses during 1961:

Cardiopulmonary Problems in Children
Brown Hotel, Denver, Colorado, July 24-28
Industrial Chest Diseases
Warwick Hotel, Philadelphia, September 25-29
Clinical Cardiopulmonary Physiology
Sheraton-Chicago Hotel, Chicago, October 23-27
Recent Advances in the Diagnosis and Treatment of Heart and Lung Diseases
Park Sheraton Hotel, New York City, November 13-17
Recent Advances in Diseases of the Chest
Statler-Hilton Hotel, Los Angeles, December 4-8

Tuition for each course is $75 for members of the American College of Chest Physicians and $100 for non-members. The fee includes attendance at the round table luncheon discussions.

Further information may be obtained by writ-

ing the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11.

ANTICOAGULANTS PREVENT SOME STROKES

Many persons who suffer temporary "warning" strokes can be spared a full-blown and possibly fatal stroke, a study indicated recently.

The findings support the view that long-term anticoagulant therapy affords protection from strokes to a significant percentage of patients who suffer intermittent attacks, according to three Mayo Clinic researchers.

Drs. Robert G. Siekert, Clark H. Millikan, and Jack P. Whisnant, Rochester, Minn., reported results of a study involving 230 patients in the April 8 Journal of the American Medical Association.

The patients were studied for periods of one to five years.

The incidence of strokes among 115 patients who received anticoagulant drugs continuously was 4 per cent, compared with an incidence of 40 per cent among 40 patients who did not receive this treatment.

Among the treated group, 83 per cent escaped a stroke while only 50 per cent of the untreated patients escaped.

MALIGNANT TUMOR NOT A HOPELESS DISEASE

Malignant tumor, a rare form of cancer, is "not a hopeless disease," according to an editorial in the April 8 Journal of the American Medical Association.

The editorial and two accompanying articles seek to dispel a commonly-held belief that the disease is "the most lethal of cancers in man."

It is "probably no better or no worse" than any other cancer, the editorial said.

This type of cancer usually develops from a mole and has a tendency to spread.

"When malignant degeneration begins, sufficient time remains in the majority of cases to act quickly and effectively," the editorial said.

The rate of survival may be as high as 20 per cent after 10 years, it said.

In a series of 130 cases at Ohio State University Medical Center from 1947 through 1957, the survival rate was 32 per cent for 5 years and 19 per cent for 10 years. In 120 of the cases, surgery was the method of treatment.

Dr. Arthur G. James, Columbus, Ohio, said the figures indicate "this disease should not maintain its past reputation as one of the most lethal cancers in man."

"The curative possibilities are definite," he said. "Also . . . the patient can be offered good and often long-term palliation."

In another article, Dr. Gordon McNeer, New York City, discussed the history and behavior of malignant tumor and concluded that "cure of this disease may be attained in a high percentage of patients in whom the disease is confined to one anatomic site."

When the disease is limited to the primary site, five year survival free of cancer is attained in 40 per cent of the cases, he said.

When the disease has spread, he said, "the outlook becomes considerably less favorable, although not hopeless."

SOCIAL SECURITY FACTS HAVE BEEN DISTORTED AND MISREPRESENTED

The truth about this country's social security program has been distorted and misrepresented to the American people and "important political and economic consequences" may result when the facts are ultimately understood, according to an insurance actuary writing in the April 8 issue of the Journal of the American Medical Association.

The article entitled "The Coming Din of Inequity," was written by Ray M. Peterson, vice president and associate actuary of the Equitable Life Assurance Society of the United States.

Peterson declared that:

1. The public is being given the false impression that the method of financing the social security program possesses many of the unique characteristics of voluntary private insurance which the people have learned to value highly.

2. The program has been misrepresented as being a "time-tested" and "tried and proved" system of financing old age benefits.

3. The people are being given the mistaken impression that social security benefits are paid out of accumulated reserves, similar to private insurance programs, when in truth the program is financed almost entirely on a pay-as-you-go basis with benefits paid out of current income.

Peterson noted that "a great national debate is now in progress as to the issue of providing medical care and hospital benefits under the Social Security System."

"That debate," he said, "can be pursued intelligently and wisely only if we understand the true nature and implications of the social security financing mechanism."

He said that a national old age pension program can be financed on a pay-as-you-go basis, a full-reserve basis, or some combination of the two.

Full-reserve financing is a "prepaid system" in which benefits are fully paid for during the years before they are received, he said.

"Full-reserve financing in the field of private insurance is the test of actuarial soundness and it is the only concept of actuarial soundness with which the American people are generally familiar," Peterson said.

He pointed out that under private insurance, all money paid into the insurance fund together with all income from investment is sufficient to pay all promised or guaranteed benefits.

Pay-as-you-go, on the other hand, means that the government raises through current taxes just enough money to pay the cost of benefits currently due, he said.

"No reserve is accumulated, no element of prepayment is involved," he said. "Money is raised as and after payees become eligible to receive benefits. In this latter sense, 'pay-as-you-go' is really a postpaid system of financing."

He added that the fiscal soundness of a government program depends "mainly on the taxing power of the government."

Peterson declared that the 80 per cent of social security taxes paid for the old age pension portion of the program (20 per cent going to survivor and disability benefits) would buy for new entrants 40 to 60 per cent more in old age benefits under an insurance company group annuity program.

He pointed out that from 1956 through 1965, tax collections for the program will total $115.1 billion while benefits and expenses in that period will total $114.5 billion.

"These figures clearly show that we are now almost completely on a 'pay-as-you-go' basis," he said.

He said the true nature of social security financing is also "vividly reflected" by the gap between the value of benefits owed to current beneficiaries and the amount of money in the trust fund.

If taxes paid into the fund had been stopped by Congress last year, Peterson said, the $20.2 billion in the fund would have paid only 23 per cent of the $88.3 billion of obligations to current recipients.

And if tax contributions are cut off in 1965 he said, the estimated $23.1 billion which will be in the fund will pay only 20 per cent of the $114.2 billion of benefit indebtedness owed to the then current beneficiaries.

There would be nothing left over for the millions who had paid taxes to the program but had not yet qualified for benefits, he said.

Peterson stressed also that young workers and those who enter the labor market in the future, together with their employers, will pay more in taxes than the workers will receive in benefits because they must bear a growing burden of indebtedness. This indebtedness arises, he said, from the fact that most present workers and those now receiving payments will have contributed, together with their employers, a great deal less than the actual obligations.

He said there is a "dawning realization" that Americans have but one choice—to pay interest on this debt "forever" since the only way to reduce the debt is for a given generation to build up a huge reserve over and above present payments solely to meet program obligations. "To expect this to happen is to be politically and economically unrealistic," Peterson said.

He said the debt arising from these unearned benefits has climbed from $150 billion in 1952 to about $300 billion under the existing program. It will rise even higher, he said, if Congress adds to the program without a tax increase high enough, as to present workers, to meet the additional cost.

Peterson quoted several public figures who have likened social security to pre-paid private insurance. These include President (then Senator) Kennedy who had called social security a system of paid up insurance and a way of saving money for old age so the elderly won't be a burden to their children.

He said there "is no foundation for these inaccurate parallels" with private insurance.

"Indeed, there is desperate need to dispel these self-mesmerizing, foggy concepts," Peterson said.

He pointed out also that "with no reserve fund in sight to reduce the debt" created under the social security program, "the burden being passed on to future generations is permanent. It is not something that will somehow work itself out, or go away; it is not an actuarial fantasy."

Peterson said that adding medical care to the Social Security System for the present aged would alter the original concept that each person must contribute for a minimum period of time before he is entitled to benefits.

Furthermore, he said, under the Administration social security program, or similar proposals, medical care would add between $20 and $30 billion to "the permanent social security debt on which future generations and their employees would need to pay interest forever."

Peterson said the main purpose of his article was to "show that there are excellent reasons for grave concern as to the probable ultimate effects of continued distortion and misrepresentation by interpreters of the Social Security Act, by statements of inadequately informed members of Congress and even by publications of the Social Security Administration itself."

Another purpose, he said, was to set the record straight by portraying an accurate picture of the financing mechanism as now oper-

ating by exposing the distortion and misrepresentation, no matter what its origin."

He said that when the American people finally learn that social security financing is "distinctly different" from voluntary private insurance with which it is compared, "a rude awakening may well occur, one which could have important political and economic consequences."

"Will the youngsters of the future protest what the oldsters of this generation have voted for themselves? During the decade ahead, will we oldsters, as we seek to enjoy our social security benefits, hear a rising clamor of unfairness—a din of inequity?"

BOOK REVIEWS

The Pharmacology of Anesthetic Drugs; by John Adriani, M. D., Director Department of Anesthesiology, Charity Hospital, New Orleans, La. Fourth Edition, 1960. Charles C Thomas, Springfield, pp. 232. Price $11.00, Cloth.

This revision of Dr. Adriani's book will establish it for all times as one of the great classics of American medical literature. It is a volume which no anesthesiologist or teacher of Pharmacology can afford to be without. It is the cornerstone for a firm structure of knowledge in the exploding field of anesthesia. Its clarity, order and directness will probably never be surpassed. For it the entire specialty of anesthesiology owes Dr. Adriani an enormous debt of gratitude.

To this fourth edition material has been added about new ethers, halothane, ultra short barbiturates, tranquilizers, anti-narcotics, muscle relaxants, hypothermia, hypotension, electroencephalography and respiratory acidosis. With each of these subjects in a simple outline form, interesting historical facts are presented to give perspective and background to the reader. The chemical basis of pharmacology is stressed anew just as it has always been by this great teacher.

Setcion XII on muscle relaxants and analeptics has been especially well done. Illustrations of physiological phenomena at the neuromuscular junction have been added along with chemical formulae of the most important relaxants and an outline of their chemical pharmacology.

To the older anesthesiologist this volume will serve as a milestone in the development of a great specialty. To the younger ones it will serve as a challenge for the future.

J. B. KAHN, M. D.

Maternity; A Guide to Prospective Motherhood; by Frederick W. Goodrich, Jr., M. D., Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1959, pp. 130, Illustrated. Price $1.75.

This "handbook" is concise, comprehensive, and practical. Prospective mothers will find it easy to read. It contains adequate information with emphasis on how to help the physician give the quality of care he is prepared to give the patient who has a basic understanding of the physical and emotional changes occurring during cyesis, labor, and delivery.

The author has wisely considered controversial topics such as routine x-ray studies, induction of labor, breast feeding, rooming-in, natural childbirth, and hypnosis with an attitude of good common sense.

This excellent little book is recommended for reading by pregnant women and by their husbands. The information in it will supplement and reinforce the prenatal conferences.

WOODARD D. BEACHAM, M. D.

Environmental Pediatrics; by Carl C. Fischer, M. D., Landsberger Medical Books, Inc., New York 1960; pp. 121, price $5.50.

In this brief but simplified and readable condensation, the author deals with several "sociopediatric" problems which should be of great interest to medical students, practitioners, and other workers in a number of paramedical fields.

As noted in his preface, the seven chapters of this handy pocket size book have resulted from an experience of thirty years in practice and teaching, reduced in recent years to lectures for medical students, thence to the present further condensation.

Most readers will undoubtedly look first at the currently conversational topics of "The Physician and Adoption" and, "The Physician and the Adolescent". Such sensible and orderly guidance as these two chapters provide would be reason enough for all to read—but the other five chapters are equally pertinent, equally timely, and equally well-organized and readable.

Certainly, this very sensible and authoritative little volume should be handy at the bedside of the busy physician for pleasant and very informative reading; it might be equally handy in the glove compartment of his car or alongside his

busy telephone! Wherever, this is one little book that can and should be kept handy.

RALPH V. PLATOU, M. D.

The Management of Fractures and Soft Tissue Injuries; W. B. Saunders Company, 1960, pp. 372. Price $5.00.

The Committee on Trauma-American College of Surgeons

This volume, as stated by the publisher, combines the Seventh Edition of the Outline of the Treatment of Fractures and the Second Edition of Early Care of Acute Soft Tissue Injuries. Since these previous volumes should be familiar to most of us, little needs to be said about this book except that in view of the frequent association of fractures with soft tissue injuries the combination of the two within a single volume would appear to be fortuitous.

The text is well written and illustrated and contains an amazing amount of information for its size. It is an excellent introductory text and ready-reference handbook concerning practically all types of acute traumatic problems. It should be useful for medical students and interns, as well as practitioners, and should be available in dispensaries.

EDWARD T. HASLAM

Procedures in Vascular Surgery; by Richard Warren, Little, Brown, 1960, 211 p., price $12.00.

This book is an atlas of surgical procedures with emphasis on technique, but it includes concise discussions of objectives, indications, contraindications, and preoperative and postoperative management. The author includes surgical procedures on the thoracic and abdominal aorta and major vessels of the extremities and the neck. He excludes operations within the heart, portal hypertension, and lymphedema.

Dr. Warren has succeeded well in condensing his extensive personal experience in a vast field. Particularly commendable are the sections on amputations and diagnostic procedures, areas which are frequently overlooked in writings on vascular problems.

A minor criticism is that the art work is not uniform. For instance, in some illustrations the aorta is black and elsewhere white. This, however, does not detract seriously from an excellent useful book.

KEITH REEMTSMA, M. D.

Principles of Surgical Practice; by Emanuel Marcus and L. M. Zimmerman, McGraw Hill, 1960, 430 p., price $12.50.

This book represents a synopsis of current opinion on the principles of surgery. It is, as the authors intended, brief and concise. According to the preface, this book is aimed primarily at medical students who the authors assume do not have the time to study the larger textbooks of surgery.

This book fits in between the "outline" and "encyclopedic" types of surgical textbooks. It is well-written and carefully edited, and will be useful to medical students who desire surgery in outline form, and it will also serve as a framework for review of the field of surgery.

KEITH REEMTSMA, M. D.

Diverticulitis; by Sara Murray Jordan & R. S. Boles, Jr., Grune & Stratton, 1960, 90 p., price $4.75.

The monograph is the last contribution to the medical literature by Dr. Sara M. Jordan. It was completed soon after her death by her friend and associate, Dr. Russell S. Boles, Jr., in accordance with her outline.

The book is divided into two parts. The first half is an extensive, chronological review of reports concerning diverticula and diverticulitis of the colon beginning with the original recognition of the diverticulum in 1730 by Friend. The last half of the monograph discusses diverticulosis and diverticulitis in a classical text-book presentation.

The author's comments based on clinical experience and opinion, follow each sub-topical discussion. The value of the presentation is the compilation and critical review of the literature pertaining to colonic diverticulum and its associated problems.

R. SPARKS, M. D.

W. B. SAUNDERS features the following recent books in their full page advertisement appearing elsewhere in this issue:

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PUBLICATIONS RECEIVED

Appelton-Century-Crofts, Inc., N. Y.: Symptom Diagnosis, by Wallace Mason Yater, M. D., and William Francis Oliver, M. D. (5th edit.).

Doubleday & Company, Inc., Garden City, N. Y.: The Golden Age Cookbook, by Phyllis MacDonald; The House of Healing, by Mary Risley.

W. B. Saunders Co., Phila.: A Manual of Cutaneous Medicine, by Donald M. Pillsbury, M. D., Walter B. Shelley, M. D., and Albert M. Kligman, M. D.; Clinical Disturbances of Renal Function, by Abraham G. White, M. D.



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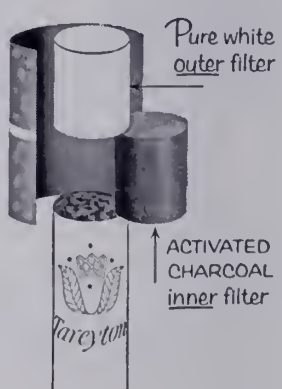
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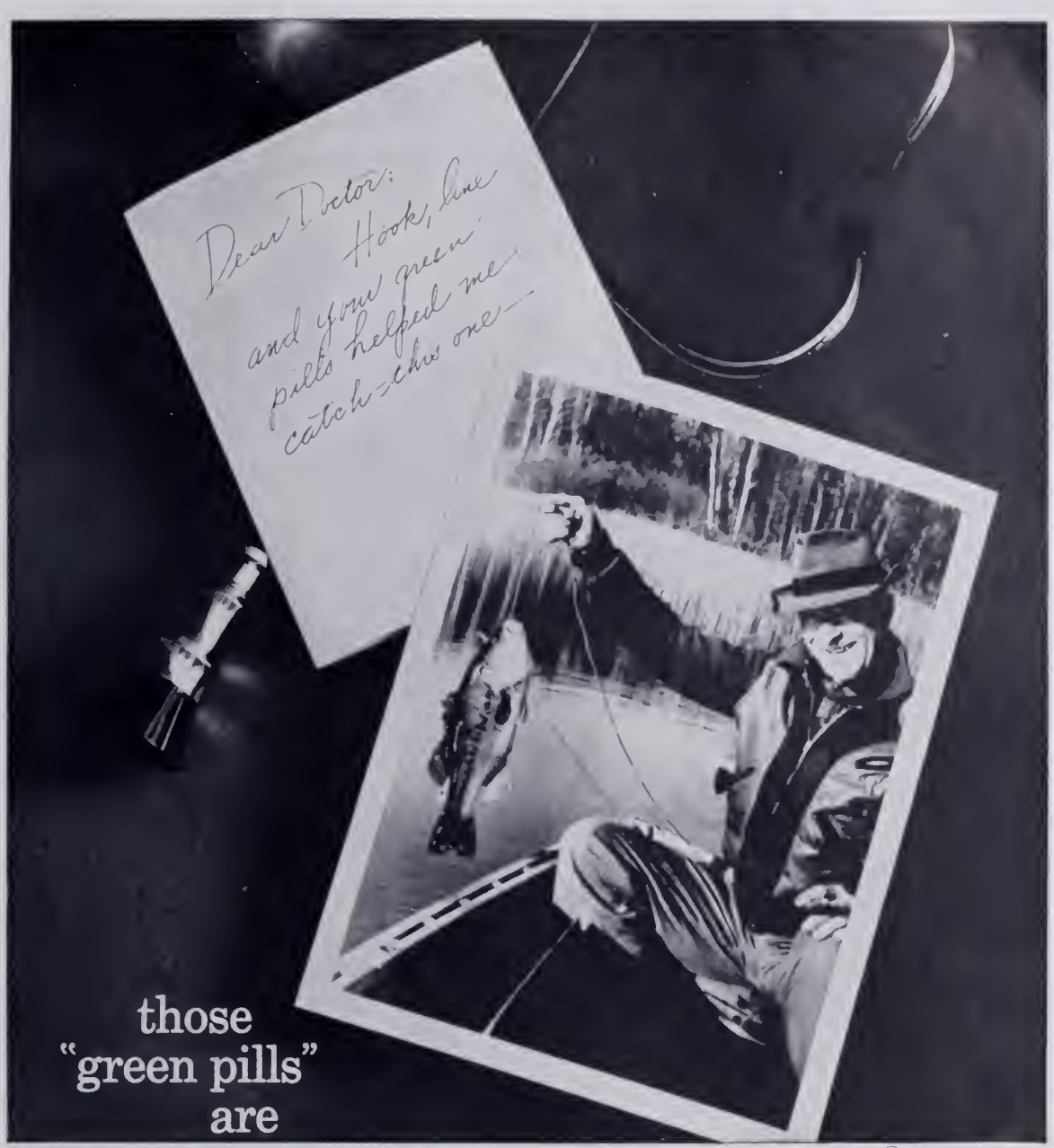
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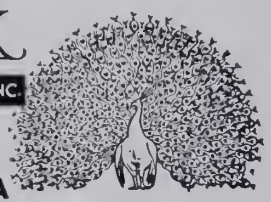
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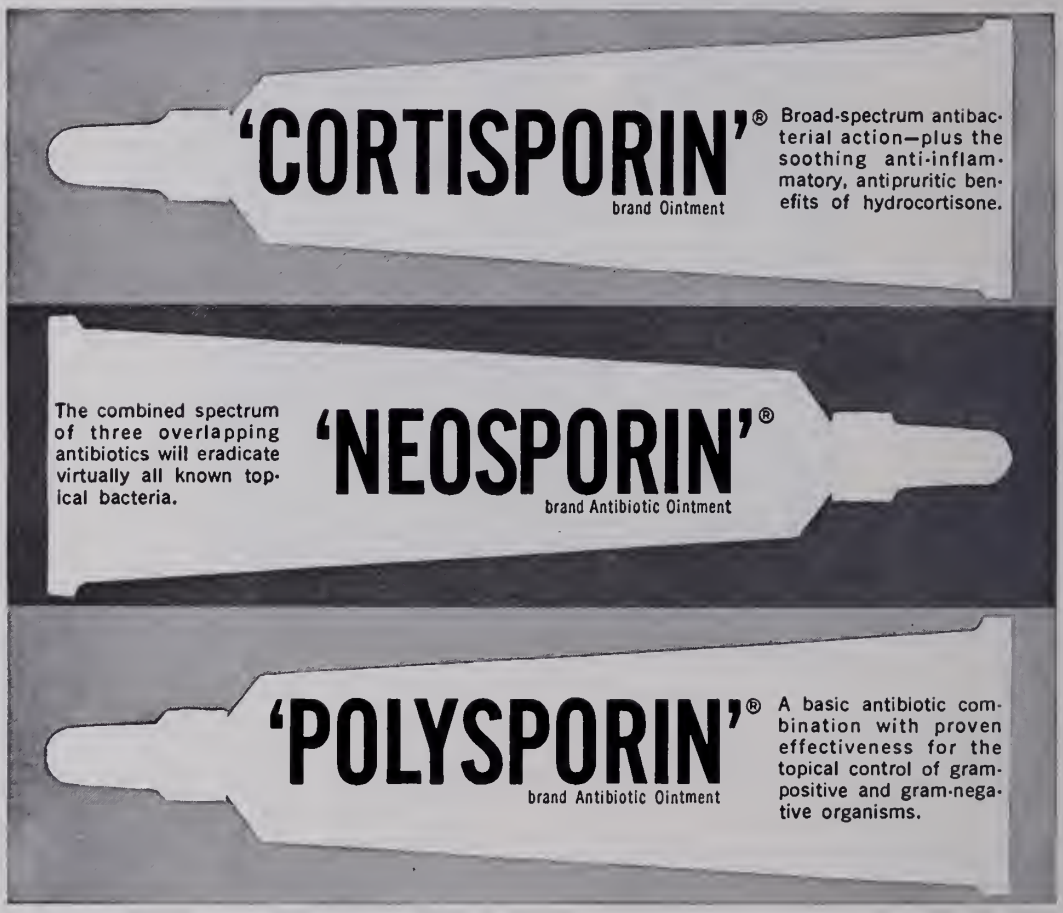
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References: 1. Lineback, M.: The Eye, Ear, Nose and Throat Monthly *39*:342 (April) 1960. 2. Fuchs, A. M. and Maurer, M. L.: New York J. Med. *59*:3060 (August 15) 1959. 3. Kreindler, L. *et al.*: Antibiotic Med. and Clin. Therapy *6*:28 (January) 1959. 4. Schiller, I. W. and Lowell, F. C.: New England J. Med. *261*:478 (September 3) 1959. 5. Edmonds, J. T.: The Laryngoscope *69*:1213 (September) 1959. 6. Horstman, H. A.: Am. Pract. & Digest Treat. *10*:96 (January) 1959.

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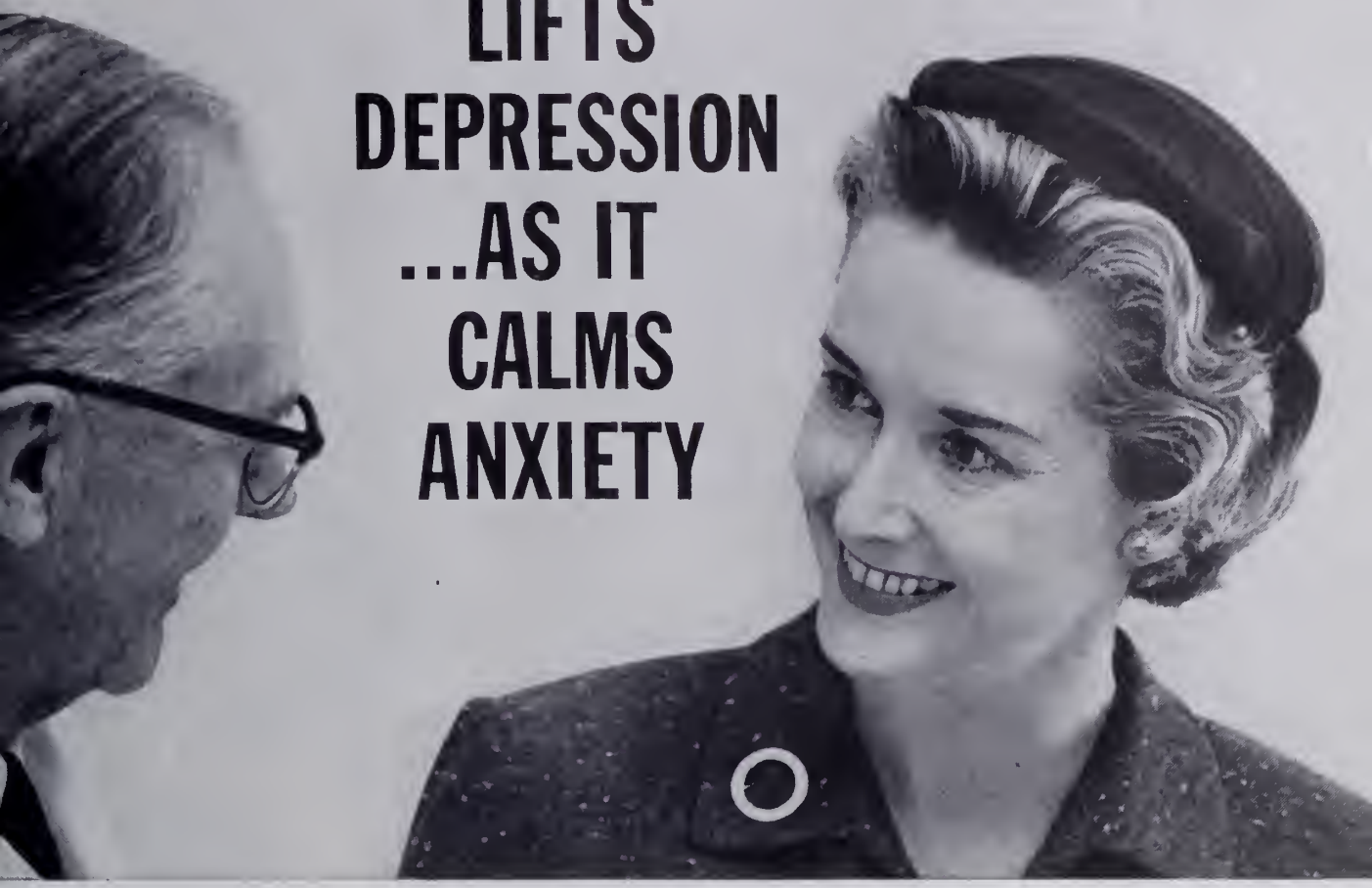
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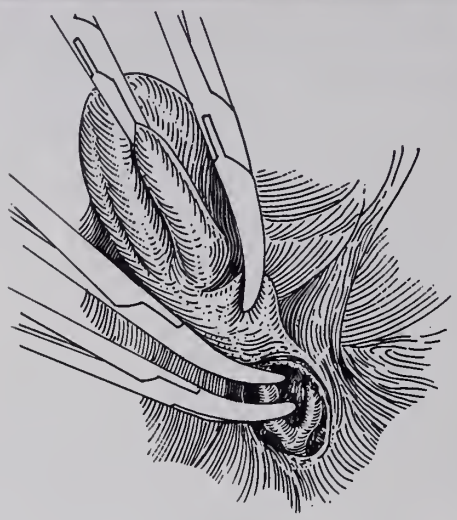
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Source: Farris, J. M., and Smith, G. K.: M. Clin. North America *43*:1133 (July) 1959.

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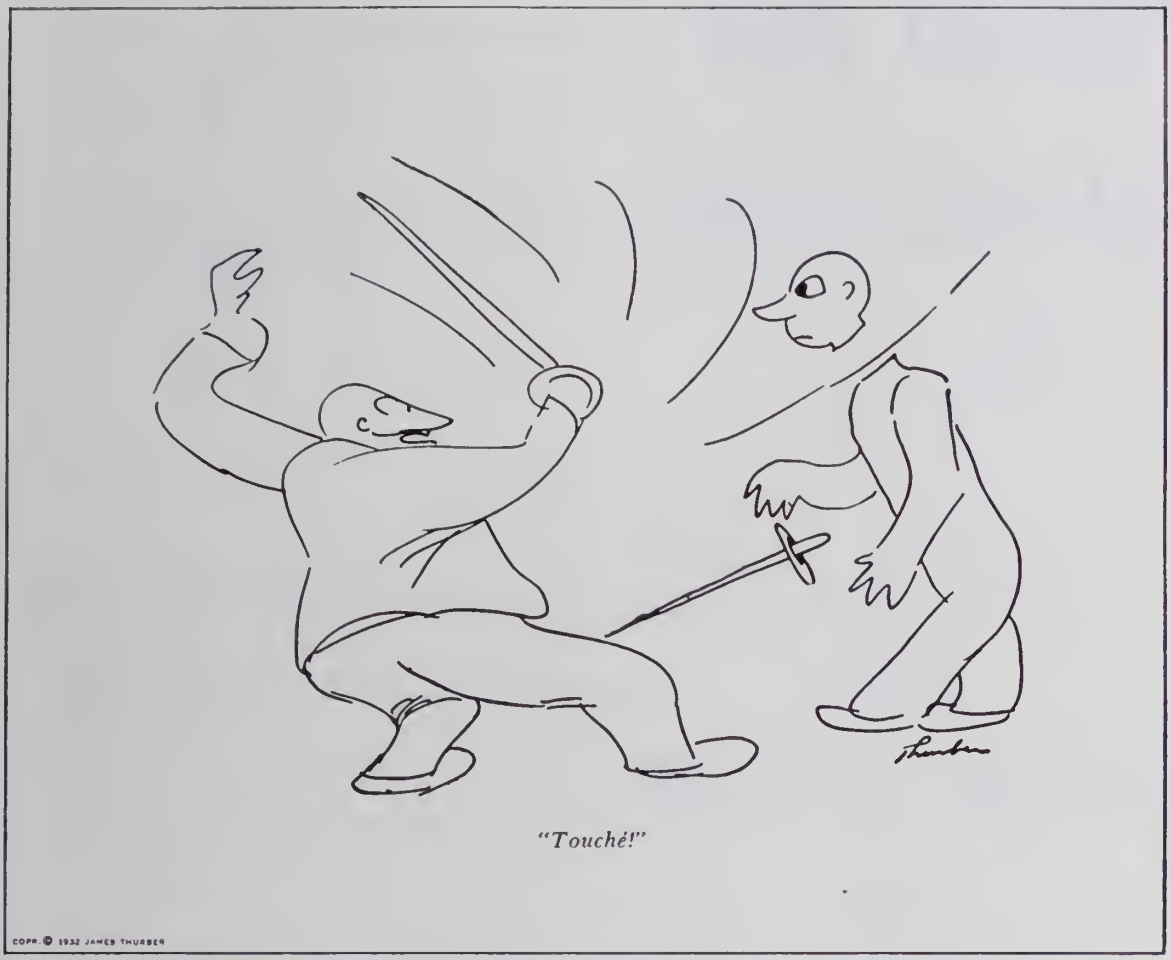
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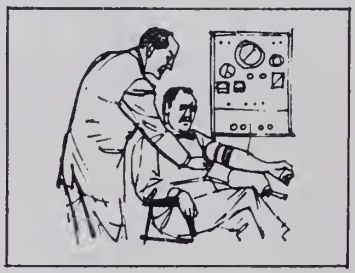
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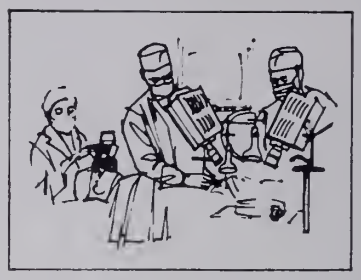
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*Silverman, M.: 48th Quarterly Meeting, Soc. Medical Friends of Wine, Jan. 13, 1960

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arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]

3 Fernandez-Herlihy, L Lahey Clinic Bull 11:12 (July-Sept.) 1958

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W H Am J Med 25:673 (Nov.) 1958 5. Pollack H. and Halpern, S L Therapeutic Nutrition. National Academy of Sciences and National Research Council, Washington, D C., 1952, p. 57

degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser W and Fong T C.C. in Stieglitz, E J Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7 Goldsmith, G A.. Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:72 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]

8. Duncan G. G.. Diseases of Metabolism 4th edition W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.; Am. J. Med. 25:708 (Nov.) 1958.

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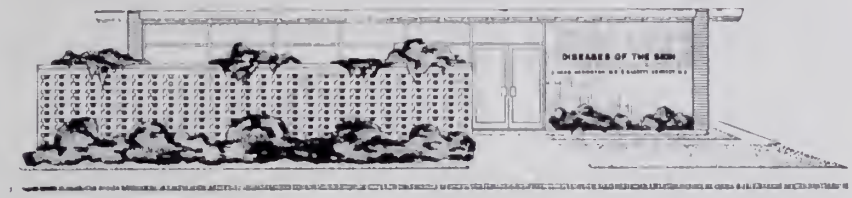
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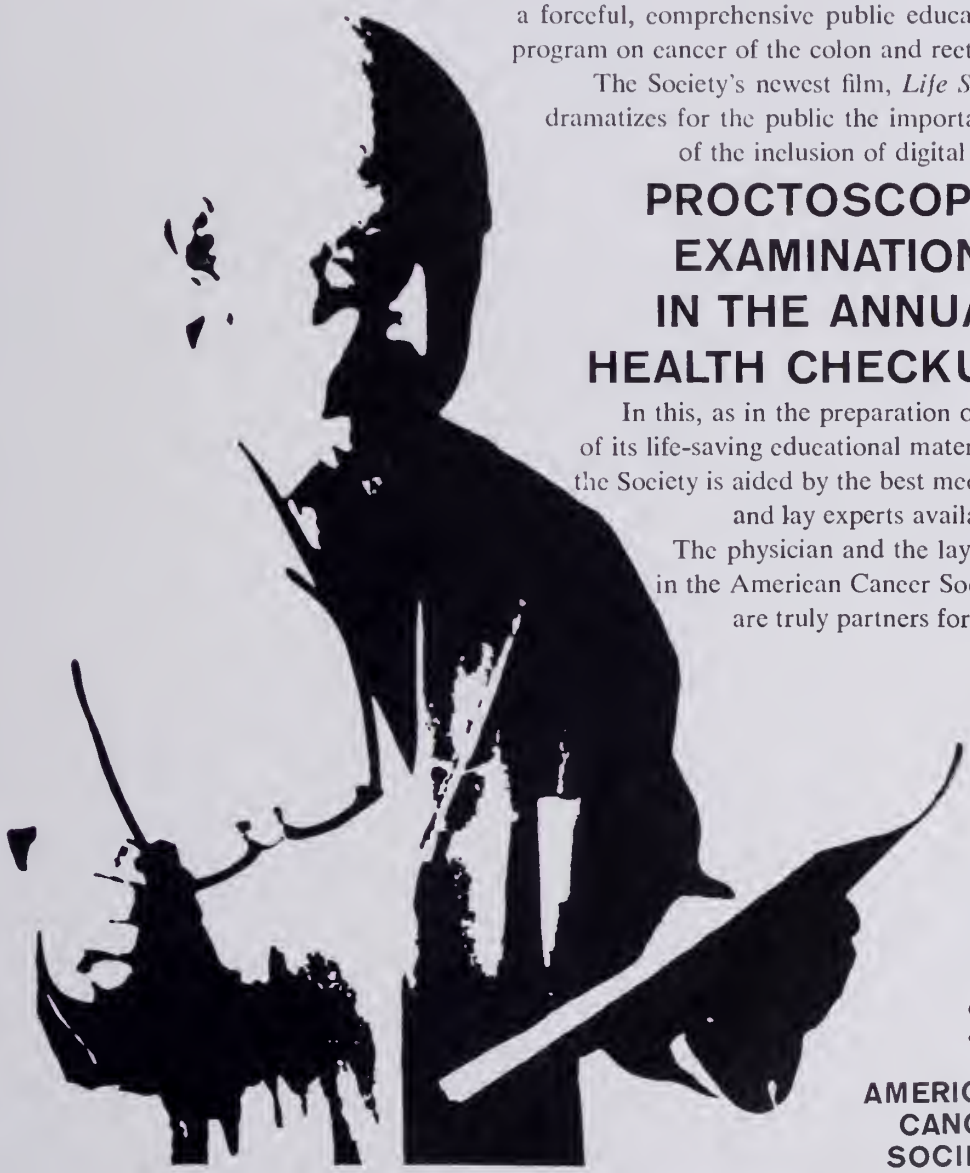
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1. The Composition of Milks, Publication 254, National Academy of Sciences and National Research Council, Revised 1953.
2. Brown, G.W.; Tuholski, J.M.; Sauer, L.W.; Minsk, L.D., and Rosenstern, I.: J. Pediat. *56*:391 (Mar.) 1960.

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Involved are Calcasieu, Evangeline, Washington, West Feliciana, Madison, Red River and St. Tammany Parishes. Louisiana is among the first to set up such a pilot study in connection with the Kerr-Mills Act, which provides for medical care for persons over 65 who are medically indigent.

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1. Meyers, G. B.: Ind. Med. & Surg. 26:3, 1957. 2. Murray, R. J.: N. Y. St. J. Med. 53:1867, 1953.

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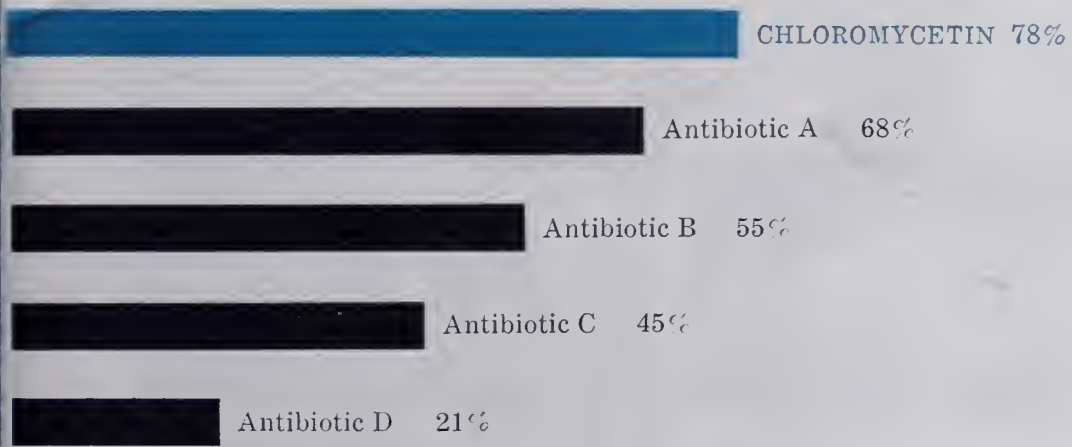
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Adapted from Bauer, Perry, & Kirby[1]

References: (1) Bauer, A. W.; Perry, D. M., & Kirby, W. M. M.: *J.A.M.A.* 173:475, 1960. (2) Fisher, M. W.: *Arch. Int. Med.* 105:413, 1960. (3) Cohen, S.: *Circulation* 20:96, 1959. (4) Edwards, T. S.: *Am. J. Ophth.* 48, Part II:19, 1959. (5) Smith, I. M.: Staphylococcal Infections, Chicago, The Year Book Publishers, Inc., 1958, p. 148. (6) Petersdorf, R. G.; Rose, M. C.; Minchew, H. B.; Keene, W. R., & Bennett, I. L., Jr.: *Arch. Int. Med.* 105:398, 1960. (7) Editorial: *J.A.M.A.* 173:544, 1960. (8) Finland, M.; Jones, W. F., Jr., & Bennett, I. L., Jr.: *Arch. Int. Med.* 104:365, 1959.

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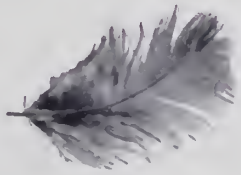
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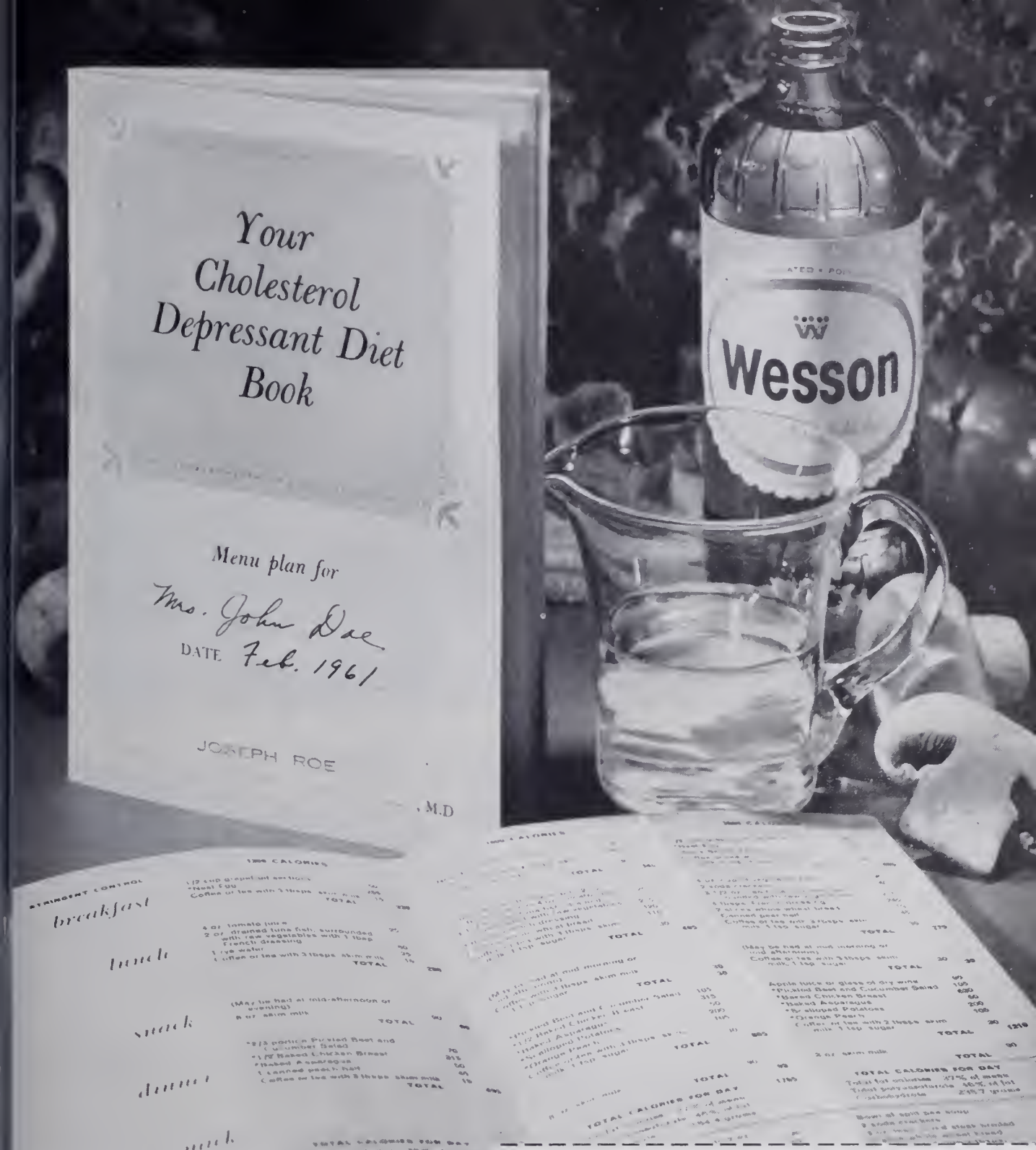
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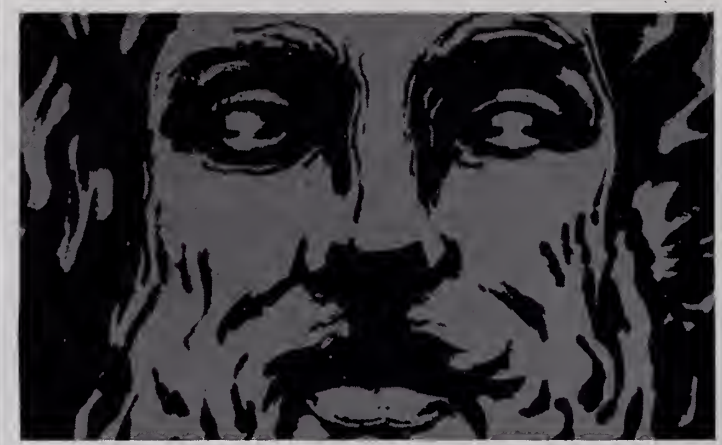
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Nasal Dysfunction in Children*

• Trauma is the cause of most septal and nasal deformities. These defects result in nasal dysfunction and should be corrected surgically early in life.

RALPH H. RIGGS, M. D.
Shreveport

THE pediatrician, family physician, and rhinologist see many children with disturbed nasal function. It is important to keep such a condition in mind, for it may later develop into a deformity of serious consequence. A thorough examination should be done on these children to evaluate the pathologic abnormalities present, and adequate surgical correction should be performed when indicated. In this paper, certain pathologic conditions in children causing nasal dysfunction will be discussed from the standpoint of etiology, symptoms, physical findings and surgical treatment, and cases illustrative of the results that can be expected from timely surgical treatment will be cited. Although acute nasal injuries in children are extremely important,[1] they will not be included in this discussion. It should be kept in mind that a child's nose differs in many ways from a small adult's nose. In the process of developing,[2] gradual changes take place at least until the end of the second decade of life, and some believe that the nose does not actually stop "growing" until around the twenty-fifth year of life.

* Presented at the Eighty-first Annual meeting of the Louisiana State Medical Society, May 9, 1961, in New Orleans.

Etiology

It is generally agreed that trauma is the cause of most septal and nasal deformities. Cottle and coworkers [3] reported that more than 6 per cent of 709 newborns on whom photographs were made within the first twenty-four hours of life showed definite evidence of gross lateral displacement of the external nasal pyramid. The incidence of simple flattening ranged from 30 to 60 per cent. Spontaneous restoration often occurs. Such deformities probably were caused during birth.[4] However, some are born with what is thought to be healed injuries. The occipito-nasal diameter in the newborn is frequently equal to or greater than the occipito-mental diameter, and the nasal structures, being soft tissues, undergo considerable distortion while passing through the birth canal. It is not unrealistic to suppose that a larger percentage could sustain some internal injury about the premaxillary area that could not be detected by photographs and perhaps not even by examination.

As babies develop, they get more "bumps" on the nose, especially when crawling and during the first stages of walking. The physician rarely sees these injuries, but when he does see a baby with

a severe nasal injury sustained in this way, he should not take it too lightly.[5] These babies may be the ones seen a short while later with a hematoma of the septum or over the upper lateral cartilages with possible absorption of these cartilages. Also, from such injuries septal abscesses may develop. In children nasal injury is most frequently to the cartilaginous structures, but the bony parts may also be damaged. Bony injuries may be overlooked, since the nasal bones are underdeveloped and are of membranous bone. Also, the frontal process may be injured and later cause a real deformity. Among other causes of nasal dysfunction are: embryonic remains in the septal space (para-septal cartilage) and extra small openings of the nostrils, due in some cases to a tension septum. Examples of these last conditions will be described later in this paper.

Clinical Manifestations

Difficulty in breathing through the nose is the outstanding symptom of these children. This is evidenced by breathing through the mouth. Other manifestations include frequent colds, nasal and post-nasal drainage, sinus infections, thumb or finger sucking, nervousness, irritability, insomnia, apparent failure of mental development (by doing poorly in school) and in some cases greatly decreased stamina.

Examination of the pathologic nose may reveal a number of abnormalities. Thus, the caudal end of the septum may be in either the right or left vestibule. The cartilaginous or bony septum, or both, may occlude one nasal cavity and allow too much space in the opposite side. There may be impaction of cartilage, bone, or both, including scar, along or below the inferior turbinate on one side or the other. Occasionally, the septum may be so thick that it obstructs both sides. Frequently, the upper lateral cartilages are too far from the septum, so that normal valve action is prevented. This condition is known as "ballooning." In other cases the septum may be perfectly straight but the upper lateral cartilages are too close to the septum. Infections, tumors, foreign bodies, allergy and hypertrophied adenoids must obviously be ruled out.

The external nose may be malaligned, and there may be "c" shaped or other deformities. Some may have "saddling" and others may have underdevelopment of one part and overdevelopment of another. In the growing child, it is important to observe the teeth and palatal arch, and check for malalignment of facial features. A mere casual examination of the chest may disclose considerable underdevelopment due possibly to nasal dysfunction.

Surgical Correction

Surgical correction is indicated if, in the opinion of the rhinologist, pediatrician or family physician, the child is not responding to non-surgical procedures. Operation should be performed before too many anomalies of growth start developing. Cottle and associates[3] emphasized the center of the septum mosaic, which is a most important area in the nose where the cartilaginous septum, vomer, maxilla and premaxilla meet. Early injury to this area can produce all varieties of changes in growth, and normal development of the nose may be retarded. Therefore, it is most important that the structures be placed in normal position, both externally and internally, so that nasal function can be utilized to the fullest extent. A small, juvenile nose is less efficient than one of normal size, but it will be much better than one presenting an obstructing septum with or without a depressed lateral wall.[6]

The surgeon who operates on a child's nose must be aware that he is dealing with a structure that has growth potential. However, many children need help, and the compromise cannot be to "watch and wait." Operation must be carefully performed, and often just a "little bit" will be of great help. Again, it does not seem reasonable to let a deformed nose grow (if it will) to a larger deformity when a corrective operation performed early in life could erase early psychological im-

pressions. Far more important than this is reestablishment of a better nasal air passage, its associated reflexes and all that this means.[7]

Among my cases, operation of the nasal septum was the most important procedure. One patient (Fig. 1), 18 months of age, required only removal of paraseptal cartilages without disturbing the middle cartilage; another (Fig. 2) required removal of a small amount of cartilage from the dorsum and caudal end of the septum after the upper lateral cartilages had been separated submucosally.

During the past few years all septums with abnormalities in the premaxillary area [8] have been operated on by the "maxilla-premaxilla" approach as described by Cottle.[9] In my experience [10] this approach has proved to be a conservative procedure by which any part of the nasal septum can be reached and judiciously treated. The support of the cartilaginous vault and roof can be controlled and all the required changes can be made. The functional result is good and the sequelae are minimal.[11]

In most of my patients younger than 10 years of age, the deformity was limited to the cartilaginous vault and could be corrected without bone work. However, lateral osteotomies were performed when it was necessary to realign the external nasal pyramid, as operation on the septum alone would not produce the desired results.

Another most important procedure is attention to the upper lateral cartilages.[12] They can be mobilized submucosally via the septum or they may be uncovered through intercartilaginous incisions and attended to as necessary. Usually, little should be done to the cartilage of the lobule.[13] These cartilages may be uncovered, if necessary, through the intercartilaginous incisions or through incisions over the caudal end of the lobular cartilages; the spring may be broken at the dome or where needed. In children they should be neglected unless they are badly deformed, unsymmetrical, or both.

The results of these procedures, as a whole, are most gratifying. There are some children who may require additional



Figure 1—(Case 1). Both nasal cavities obstructed by paraseptal cartilages.

surgical treatment later, and both the family and the rhinologist should be aware of this. It is not my intention to convey the idea that every child with some deformity requires surgical correction. The ones requiring operation must be carefully selected according to the indications discussed earlier in this paper.

Case Reports

The following cases illustrate the kind of results that may be expected from timely surgical treatment.

Case No. 1. (Fig. 1). This baby boy, aged 18 months, had had constant colds with high fever, was nervous and slept poorly. After removal of the paraseptal cartilages, nasal breathing was good and the child had few colds, slept well and was not nervous.

Case No. 2. (Fig. 2). This 5½-year-old girl was a mouth breather and was extremely nervous and restless while sleeping. A small amount of cartilage was removed from the dorsum and caudal end of the septum after the upper lateral cartilages were separated submucosally. Postoperatively, the child breathed through the nose, was not irritable and had no difficulty sleeping.

Case No. 3. (Fig. 3). The case of this 16 year old boy is presented because it shows the results of deferring operation. He possibly should have been operated on earlier in life. When seen, he was complaining of cough with vomiting. He was suspected of having heart trouble, and had to stay out of school most of the time. He had little stamina and his chest was underdeveloped. After reconstruction of the nasal septum, realign-



Figure 3—(Case 3). Malalignment of nose, high palatal arch, mouth open.

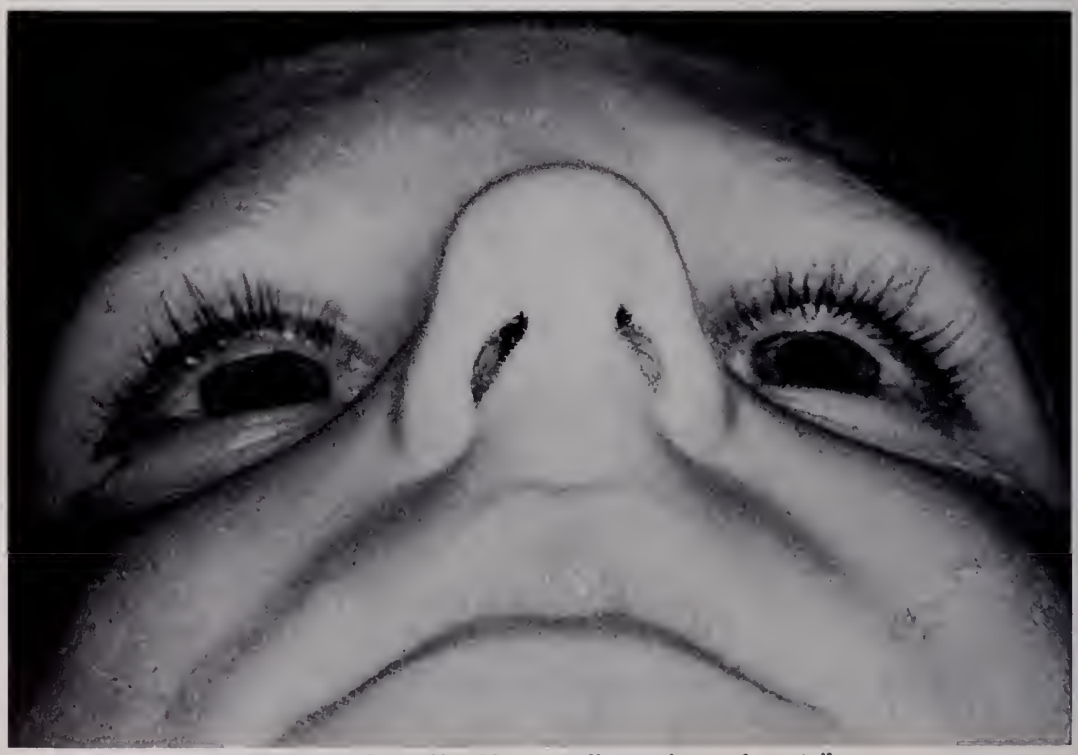


Figure 2—(Case 2). Note small openings of nostrils.

ment of the external nose and operation on the upper lateral cartilages and lobule, the cough and vomiting disappeared. The boy can now run and play, has greatly increased stamina, and attends school regularly.

Case No. 4. (Fig. 4). This 14 year old boy was underdeveloped generally, had frequent colds and sore throat with high fever and breathed



Figure 4.—(Case 4). Deformity of external nose and nasal septum, mouth breather.

through the mouth. After reconstruction of the nasal septum and realignment of the external nasal pyramid, breathing was through the nose, infections decreased and the patient's standing in school rose from the bottom of the class to fourth from the top.

Case No. 5. (Fig. 5). This 11 year old boy was a mouth breather, had frequent infections of the upper respiratory tract and was a poor student, nervous and a bed wetter. After reconstruction of the nasal septum and nasal spine, realignment of the external nasal pyramid and operation on the upper lateral cartilages, the child was able to breathe through the nose, no longer wet the bed and was much calmer.

Case No. 6. (Fig. 6). This boy, aged 9 years, was a mouth breather and was failing in school. After reconstruction of the nasal septum and nasal spine, mobilization of the lobular cartilages through intercartilaginous incisions, and operation on the upper lateral cartilages, the patient was able to breathe through the nose, slept better and improved in his school work.

Case No. 7. (Fig. 7). This girl, aged 12 years, breathed partially through the mouth. A nasal



Figure 5—(Case 5). Malalignment of nose, septal obstruction.

deformity was first detected at the age of 6 years. After reconstruction of the nasal septum and spine, realignment of the external nasal pyramid and operation on the upper lateral and lobular cartilages, the child could breathe through the nose and is doing better in school.

Case No. 8. (Fig. 8). This girl, aged 4½ years, had sustained a nasal injury two years previously. Breathing was through the mouth. After reconstruction of the nasal septum, median osteotomy and operation on the upper lateral cartilages, the child had no difficulty breathing through the nose.

It is important that the surgeon examine these patients periodically for a long time after operation. To the close observer, many changes may be seen over a period of months and even years. This is the way that one can better evaluate the results.

Summary

Disturbed nasal function in children should be corrected surgically if the desired results cannot be obtained by nonsurgical procedures. Surgical correction of nasal dysfunction in children can be



Figure 6—(Case 6). Caudal end of septum in right vestibule, left nasal cavity obstructed, mouth open.

safe and probably will alleviate many symptoms if adequately performed. Several cases have been cited to illustrate the numerous complaints encountered and the results that may be expected from timely surgical correction of nasal deformities in children.

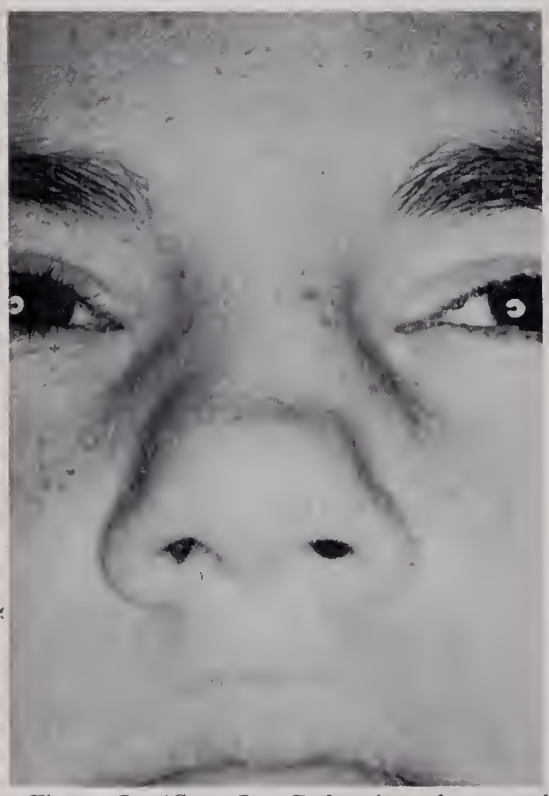


Figure 7—(Case 7). Deformity of external nose and septum; note asymmetry of lobular cartilages.



Figure 8—(Case 8). Deformity of external nose and septum, mouth open.

References

1. Aagensen, W. J., Morrison, L. E. II and Sputh, C. B., Jr.: How to handle acute nasal injuries. A.M.A. Arch. Otolaryng. 60:367 (Sept.) 1954.

2. Morrison, L. E.: Some relationships between embryology and our work. Presented at Postgraduate Course in Reconstruction Surgery of the Nasal Septum and External Pyramid. University of Cincinnati, College of Medicine, Cincinnati, Ohio, April 11-19, 1958.

3. Cottle, M. H. et al.: Early nasal injuries; a factor in nasal, septum, dental and facial deformities. Exhibit at the meeting of the American Medical Association, Section on Laryngology, Otology and Rhinology in Chicago, June 1956.

4. Stelner, A.: Certain aspects of nasal trauma in the prenatal-natal period. Maryland State M.J. 8:557 (Oct.) 1959.

5. Cottle, M. H.: Nasal Injuries: corrective surgery of nasal septum and external pyramid. Study notes and laboratory manual, Pp. 95-102, Published by the American Rhinologic Society, 1960.

6. Wexler, M. R.: Nasal surgery in children. Tr. Pacific Coast Oto.-Ophth. Soc. Pp. 215-226, 1957.

7. Cottle, M. H.: Concepts of nasal physiology as related to corrective nasal surgery. A.M.A. Arch. Otolaryng. 72:11 (July) 1960.

8. Klaff, D. D.: The surgical anatomy of the anterocaudal portion of the nasal septum; a study of the area of the premaxilla. Laryngoscope 66:995 (Aug.) 1956.

9. Cottle, M. H., et al.: The "maxilla premaxilla" approach to extensive nasal septum surgery. A.M.A. Arch. Otolaryng. 68:301 (Sept.) 1958.

10. Riggs, R. H.: The maxillary premaxillary approach to septal surgery. Eye, Ear, Nose & Throat Month. 39:157 (Feb.) 1960.

11. Riggs, R. H.: Complications of submucous resection. J. Louisiana State M. Soc. 109:361 (Oct.) 1957.

12. Cottle, M. H.: Surgery of the upper lateral cartilages; corrective surgery nasal septum and external pyramid. Study notes and laboratory manual, Pp. 78-85, Published by the American Rhinologic Society, 1960.

13. Cottle, M. H.: Surgery of the lobular cartilages; corrective surgery nasal septum and external pyramid. Study notes and laboratory manual, Pp. 61-69, Published by the American Rhinologic Society, 1960.

Introductory Address of the President at the 9th Annual Meeting of the American Public Health Association

The time allotted to this address is much too short to justly set forth the many and valuable services of these dead associates. * * *

These, our associates, have ceased to labor, some of them while comparatively young, feeling that they had learned a little, only enough to begin to study to advantage, and were eagerly looking forward to more rapidly gained increments of knowledge and to riper and more abundant accomplishments in the future. As with them so with others; the plow may be stopped afield in the furrow. For some of us the time is assuredly short. Let us take our lesson of self-sacrifice and industry and honesty of purpose, from these our dead, and turn to the living, to our duties and opportunities, from the contemplation of what they worthily did to what there is for us to do.

New Orleans M. & S. J. 10:642 (March) 1882.

The Fragmentation of Community Health Services in Lousiana: The Responsibility of Organized Medicine

• A vital subject, of importance to all physicians, is presented in this paper. Further comments are made editorially.

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New Orleans

Significance of Fragmentation

IF, in the process of social change, any semblance of the institution of private practice of medicine is to be preserved, the medical profession will have to regain its leadership in community health affairs by continuous study and recognition of community health needs, by initiating, planning, and developing services based on needs, and by participating in the administration and operation of such services.

If we, the medical profession, are really serious in wanting to examine and analyze the so-called ungainly "public image" of ourselves which has developed as we continue to lose our leadership, we must, indeed, be brutally frank in this undertaking; we must be urgent and industrious in remolding the face of that "public image" lest it become an unavoidable historic monument, permanently engraved in our medical record. Let us therefore proceed on this basis.

From the struggle that has been waged during the last four decades by organized medicine against governmentally operated community health programs, four very significant facts have emerged:

1. The governmentally operated programs have increased in number and extent with a force as relentless and powerful as organized medicine's contention against them.

2. The medical profession has lost its leadership in community health affairs to a degree equivalent to the withdrawal of its support from health departments' growth and development.

3. The tempo at which the administration of community health services is being transferred from medically directed to non-medically directed agencies has quickened to a degree equivalent to the amount of reluctance that organized medicine has shown in taking the lead in planning for community health needs, and to that same degree, the traditional health agencies of government, the health departments, have lost their leadership and initiative in providing for the changing needs of the public.

4. To the extent that non-medically directed agencies have taken over the administration of community health services, to that extent have these services become fragmented, the development of their quality retarded, their cost of administration and operation increased, and their performance gnarled with confusion.

The first three points were discussed in more detail in a previous paper.[1] The purpose of this article is to discuss the fourth point, the fragmentation of community health services in Louisiana. In order that there be no misunderstanding as to the meaning of this subject, the phrase "fragmentation of community health services" will be defined at the outset. Since this paper will concern itself particularly with governmentally organized health programs, the definition will refer thereto. Fragmentation of community health services denotes: (1) the delegation of re-

* Presented at the Eighty-first Annual Meeting of the Louisiana State Medical Society, in New Orleans, May 10, 1961.

sponsibility for each specific health program to one of a variety of state agencies, thus, distributing the responsibilities for the various types of health services among any number of state agencies; and (2) the splintering of the administration of a specific health program area among more than one state agency, thus, encouraging redundancy or duplication in rendering health services by a variety of agencies.

Fragmentation Described

To illustrate the first aspect of the fragmentation process in Louisiana: The State Board of Health is the legally authorized agency to collect vital statistics, to prevent and control communicable diseases, to carry on maternal and child health services and environmental hygiene; the Department of Public Welfare is the legal authority for licensing of day care centers, for the medical care of the aged, and for the medical care services for the indigent; the Department of Education has legal responsibility for the training and rehabilitation of spastic children; the State Department of Hospitals is the legal authority for hospitalization of indigents, for mental health services, and for licensing of nursing homes. It must be remembered that the State Department of Hospitals, despite its name, is a non-medically directed agency.

The second aspect of the fragmentation process is expressly illustrated by the following example: The Louisiana State Board of Health, in 1936, was declared the state agency to administer maternal and child health services. At the present time, at least three other state agencies have insinuated themselves into providing primary medical services in this area, to wit, the Department of Education, Hospitals, and Public Welfare. But this does not tell the whole story. Since 1936, the aforementioned non-medically oriented agencies have embarked on a series of health programs in maternal and child health which dwarf in magnitude the funds expended and services rendered by the Board of Health. The Department of Education now (since 1948) operates the State School for Spastics (largely a medical problem), an extended psychological diagnostic, evaluative, and consultative service for children, physical and mental rehabilitative services for handicapped youth, nutrition consultative services, and a treatment and rehabilitation program for retarded children. The Department of Public Welfare operates a medical care program for indigent mothers and children, a consultative program for blind and partially blind preschool children, and licensing of child care institutions, day care centers and maternity homes. The Department of Hospitals (besides the services of the Charity Hospitals) operates the mental health guidance centers for children, the evaluation center for exceptional children, the inspection and licensing of private institutions caring for the mentally retarded, and treatment and rehabilitation schools for retarded children. This is a partial story of the fragmentation of a single health program area.

It is a well accepted maxim that health is everyone's concern and that everybody, one way or another, actively participates in its attainment or its impairment. The same can be said of every basic human need. However, concern and interest are not the only qualities required to be able to render health services competently. Knowledge and technology are the instruments for satisfying such basic human needs and these are possible only by special education and training. To provide for the health needs of a community, the two interdependent disciplines, medicine and ecological hygiene, must be applied. Therefore, the public health physician is, logically, the professional pivot around whom and through whom the planning and operations of such community health services should be administered. Nevertheless, it is proper and desirable that nonmedical educational agencies make the teaching of the principles of health an essential requirement in their curricula, and similarly that welfare agencies provide consultation for guiding their clientele in obtaining health services and in maintaining good health.

In the process of carrying out the primary function for which each social service agency was established, therefore, such agency has the additional responsibility of orienting its activities to support the attainment of optimum health for its clientele and for the community in which it operates. This interrelated participation in the broad field of human needs is the legitimate concern of every social service agency. This is not fragmentation and does not lead to fragmentation of community health services. But when an agency, whose primary function and orientation are in a field other than health, competes for and is successful in acquiring jurisdiction of programs in which the primary function is rendering health services, this is fragmentation, and the problem of competency must be investigated, if the public weal be our concern. Where health is involved, this certainly is the concern of the medical profession. Fragmentation is an evil—a serious maladministration of government.

Causes of Fragmentation

Since, in the past, few organizations or individuals have seriously studied the fragmentation of official community health programs, little has been written on the subject. The United States Public Health Service, for the most part under the leadership of Dr. Joseph W. Mountin, gathered the raw statistical data upon which this study is based and from which the statistical tables of this study were derived.

Dr. Mountin, a public health theoretician of note, in referring to the problem of fragmentation said that the "variation among States in assignment of responsibility for health functions is due in great measure to two main factors: Complexity of state governmental organization and extent of health services provided by the State." [2] Unless the term "complexity" be defined, the effect of this factor would be difficult to assess. If complexity of state governmental organization were an important cause of fragmentation, this complexity must have developed around the time of the passage of the Social Security Act when the significant rise in fragmentation began. Government organization has gotten bigger. Is this "bigness" to be identified with complexity? How does the complexity factor explain why government chose to disperse the assignment of responsibility for the new and enlarged health services among a variety of agencies instead of continuing to place this responsibility in its traditional health agency, the health department? And further, why did not a similar degree of fragmentation occur among social services other than health which also experienced rapid development with the passage of the Social Security Act? However, this period coincided with the consolidation of organized medicine's forces against government expansion of community health programs. Rather than the vague force of complexity, it appears that fragmentation was a consequence of the contention between government and organized medicine over the extension and expansion of community health services.

There is a need to recognize at this point that social history is a process of collective human effort manifested by quantitative growth or regression of society and qualititative development of social forms and functions, i.e., people, in particular relations to each other, contending under particular circumstances to produce their livelihood and shape their way of life in accordance to their unique aspirations, compose the process by which each episode in social history is made. Without embarking upon a philosophical dissertation on this subject, it can be predicated that society's ability to increase the amount of its health services derives from its general ability to increase its knowledge and technology, on the one hand, and to direct and control qualitatively the application of this knowledge and technology, on the other hand. In the field of health, much has been learned in the past half century. However, the application of knowledge for enhancing community health has lagged, particularly

since therapeutic medicine has become the object of this application.

The controlling forces in the application of medical knowledge and technology are, in the first place, the will of the community, and, in the second place, the will of the medical profession. Obviously, these two wills have not worked harmoniously in the same direction during the past four decades, and since the period of the great depression have clearly separated in different directions. The will of the community has sought to make therapeutic and rehabilitative services available for those sections of the population whose economic status would prevent or retard them from buying these services on the open market. The will of organized medicine has sought to maintain the rendering of these services as items freely purchasable on the open market, claiming that those who could not afford to purchase these services were already adequately being cared for. Of course, neither of these wills has been completely successful. The community was unable to establish in its governmental apparatus the full measure of health services it sought. Organized medicine was not successful in preventing the gradual but continuous addition of community health services in the system of governmental operations.

Parenthetically, it can be assumed with confidence that the high cost of medical services would not have brought so much disapprobation to physicians had the profession participated in a positive manner to plan and develop community health services in those areas where these high costs created the most obvious problems.

In the course of these developments, the following events combined to create the conditions leading to the fragmentation of health services:

1. The exclusive voice of private practice became synonymous with the voice of organized medicine.

2. The contention of organized medicine against government medical programs placed the public health physician in a precarious position in the eyes of organized medicine, and separated him from the confidence and congeniality of circles frequented by his confreres in private practice.

3. Organized medicine, in its contention with public opinion, lost its leadership in community health affairs; and the public health physician, not willing to violate his trust with his colleagues in private practice, also lost his leadership in the development and administration of community health services.

4. In an effort to improve its public relations with the community, organized medicine began to lend its support to voluntary health organizations.

5. The leadership of the voluntary health organizations was in consonance and unity with the leadership of the non-medically directed official social service agencies. Using this new strength derived from medical support, this combined lay leadership began to vie with health departments for the administration of medical programs. Thus, indirectly, the non-medically directed official social service agencies derived a vicarious support from the medical profession for taking over the administration of community health services.

6. Legislators became wearily accustomed to organized medicine's persistent negativism. They were not aware of the implications of legislating health programs into non-medically oriented agencies. Having lost contact with the silenced leaders of public health agencies, legislators became easy targets for the sentimental petitions of pressure groups to pass laws designed to aggravate the fragmentation of community health services.

7. The longer that organized medicine continues its policy of withholding support from or outrightly opposing health department program development in favor of non-medically oriented social service agencies, the more will conditions prevail for increasing and sustaining fragmentation of community health services, and for separating the medical profession from the planning and operations of these services.

The drive for extension and expansion

of community health services was the basic, and for the most part, the unavoidable, uncontrollable social factor contributing toward the development of fragmentation. But the growing struggle between organized medicine and government over this extension and expansion of community health services was the avoidable and the controllable social factor which the medical fraternity helped to create and which is more directly responsible for the fragmentation problem. Not only did this struggle incite to fragmentation, but it helped further to create and shape the recent history of the medical profession—a history credited for the estrangement of public health physicians from private practitioners for the consequent decline of the physicians' leadership in community affairs, and for making possible the taking over of health service administration by lay leaders and agencies.

No Substitute for Medical Leadership

As pointed out above, the AMA has made a special effort in recent years to ally itself with voluntary health agencies in order to change to a more favorable mold the "public image" of organized medicine, and to reduce the pressures for the development of governmentally organized community health programs.[3]

In the meantime, as if prompted by the spectre of the past, the incoming president of the AMA, in his inaugural address at Miami, June 1960, argued rather scathingly about governmentally operated health programs and government employed physicians.[4] Such maneuvering scarcely manifests concern for the public weal. It appears more as a diversive tactic in an obstructive strategy based on fear rather than a philosophy of humanism. To support voluntary health agencies against official health agencies is to encourage the engagement of these two against each other. This is similar to the easily discernable tactic of negatively approving health programs in non-medically directed agencies of government while positively disapproving such programs in health departments. Lay leaders in the non-medically directed agencies, official and voluntary, who understand the occasion of these maneuvers support these policies of organized medicine.

Yet, by these very policies, physicians are destroying their leadership in community health affairs and are immobilizing the forward movement of public health physicians. The physicians in medically directed government agencies, the only ones in a position to represent the medical profession in the government, appear to be the inculpated target of organized medicine. The scheme to enfeeble physician-directed health agencies in government is redounding insidiously to destroy the leadership of the medical profession as a whole. This is clearly demonstrated by the increasing growth of governmentally operated community health programs and the decreasing representation of medical leadership in these activities. Thus, the fragmentation of the unity of public health and private practitioners has lead to a fragmentation of community health services and the fractionation and destruction of medical leadership in community affairs.

If the medical profession believes that its interests are well looked after by having physician representation on various boards or advisory committees of non-medically directed agencies or even by having physician representation somewhere on the staffs of such agencies, its innocence in understanding the reality of things is surprisingly artless. For the good of the people and the medical profession, there is no substitute for medical leadership in health agencies of the government, particularly when this leadership is supported by organized medicine.

Dilemma and Impasse of Medical Profession

Except for the New Orleans Charity Hospital, the State Board of Health is the oldest state agency specifically created to administer medical and hygienic services. (The East Louisiana State Mental Hospital was established the same year, 1855.) Until the first World War, the State Board

of Health operated or played a leading role in the operations of practically all the community health services of the State except charity hospitals and institutions for the mentally disturbed. Up to that time, the State Medical Society and physicians generally supported and gave leadership to the state public health services. After the war, the development of socialized medical systems in Europe brought fear into the hearts of American physicians concerning health programs operated by government. About this time, the development of full-time county and municipal health departments began to burgeon on the American scene and in Louisiana, thus, increasing the number of full-time public health physicians. Because of the nature of their activities, these physicians soon became separated from their confreres in private practice.

The reverberations from abroad and developments at home therefore combined to create an atmosphere for nourishing suspicion and schism between the physicians operating government health programs and private practitioners. Under such strained relations, organized medicine lost interest in officially administered public health services and even derived a hidden satisfaction in contemning such efforts and achievements. Full-time public health physicians, fearing the sting and the indignity of isolation from their medical confreres in private practice, began to recoil from the traditional pursuit of aggressive planning and administration of public health.

By the time that the Social Security Act was passed, public health physicians were warily treading in troubled waters and reluctantly giving up their vigorous leadership to lay groups and agencies which, spurred to action by the void created by the medical professions' abdication, began taking over community health programs.

Although public health physicians, generally, shrank from touching community medical care programs, and organized medicine fought vigorously against them, these programs grew like mushrooms outside the sphere of influence of the organized will of the medical profession. In the meantime, the scientific and technological assault on the mortal and disabling communicable diseases increased in effectiveness. Their incidence rapidly decreased, some actually disappearing from our country. Consequently, those health problems of the public which, in the past, were more easily distinguished as belonging to the province of health departments, i.e., the prevention and control of communicable diseases, began to lose their importance in the eyes of the public. Caught in the movement of the campaign for developing medical care services in the chronic and non-communicable disease areas, health departments found themselves involved in the control and prevention of such diseases as pellagra, rickets, crippledness in children, dental caries, heart disease, cancer, and behavioral disturbances. But the methods of prevention and control of these diseases required a different approach than those required for most communicable diseases. In the control of tuberculosis and syphilis the sharp demarcation between prevention, control, therapeutics, and rehabilitation began to blur, whereas, for the chronic and non-communicable diseases, the distinguishable boundaries between these areas became lost completely.

However, organized medicine frowned on government getting into the field of therapeutics and rehabilitation. The public health physician, felt bound to respect the wishes of his confreres in private practice although it was becoming clear that reasonableness and logic were being replaced by the irrationality of fear. It also became clear that the voice of organized medicine reflected solely the fears of private practitioners, the health officers being left isolated and unrepresented in medical circles. The public health physician knew what needed to be done in the development of community health services to meet the changing needs of the people, but the fear of ostracism from the medical community froze him in the

posture of the past. His leadership in community affairs became dissipated, the void being gradually filled by lay leaders.

A Voice of Clarity Emerges

The tragedy of the medical profession's loss of leadership in community health affairs was now and then interspersed with sparks of regeneration. The latest evidence of this came to life in 1960 when a large body representing organized medicine, finally came forth with an unobstructed perspective and a fresh definition of the province of public health.

The Pennsylvania Medical Society auspiciously declared: "The theory and practice of public health has changed and expanded to include not only prevention of onset of illness, but also prevention of progress of disease, of associated complication, and of disability and death." [5] As a logical corollary to this, the president of the Pennsylvania Medical Society wrote: "In my opinion this Society enjoyed its highest peak of good will on the part of the citizenry of this State when it was actively supporting the public health program that it fostered. Let us win back the good will of the people of this State. . . . The Society should also turn its attention this year to the unification of the health services rendered by the State in its separate departments. There is no state in the Union that has such splintered health program services and responsibilities as has Pennsylvania. . . . Why shouldn't these services be the responsibilities of one department—that of Public Health. Splintering responsibility in this fashion only weakens the effectiveness of the services rendered and, therefore, leads to delay, wasteful spending, and frustrations." [6] This collective voice of logic and clarity from the physicians of Pennsylvania came not a day too soon. The Pennsylvania Medical Leadership appears to understand the problem.

Extent of Fragmentation

The full force of the present crisis was not felt until the period when the Social Security Act was passed. Since then, the fragmentation of community health services rapidly increased in every state of the Union.

Table 1 illustrates the extremities to which fragmentation has progressed in each state during the twenty year period 1930 to 1950. Louisiana's health services were among the most severely fragmented in the United States in 1950.

Table 2 graphically depicts in detail the process of health service fragmentation in Louisiana from 1930 to 1950. In 1930, the fragmentation was at a minimum. During that year, the State Board of Health had responsibilities in 33 health program categories. About 10 other state agencies, including various special boards or commission operated 10 services of various types in 6 health program categories. In 1940, the State Board of Health had responsibilities in 41 health program categories. During that year, however, about 20 other state agencies, including special boards and commissions, operated 36 services of various types in 21 health program categories.

In 1950, the State Board of Health had responsibilities in 48 health program categories, while about 34 other state agencies, including special boards or commissions, operated well over 100 services of various types in 37 health program categories. Thus, from 1930 to 1940, the number of agencies, other than the State Board of Health, that participated in community health services increased from about 10 to 20, and the number of health program categories in which they functioned increased from 6 to 21. This was a mighty leap forward in fragmentation in a ten year interval. Between 1940 to 1950, the increase in the number of "other" agencies participating in community health services was from about 20 to 34. During this decade, the number of health program categories in which other agencies participated sky-rocketed from 21 to 37.

At the same tempo, in the various health program categories, the number of services of various types operated by "other" agencies increased from 10 in 1930 to 36 in 1940, and to well over 100 in 1950.

TABLE 1

TABLE SHOWING THE DEGREE OF FRAGMENTATION OF COMMUNITY HEALTH PROGRAMS BASED ON THE NUMBER OF PROGRAMS OPERATED BY AGENCIES OTHER THAN HEALTH DEPARTMENTS AND ON THE NUMBER OF AGENCIES OPERATING SUCH PROGRAMS DURING THE 1930-1950 PERIOD

	Number of State Agencies Operating Community Health Programs			% Increase in Community Health Program Fragmentation, Using Number of Agencies Operating Health Programs in 1930 as Base			Number of Community Health Programs Operated by State Agencies Other Than State Health Department			% Increase in Community Health Program Fragmentation, Using Number of Health Programs Operated by State Agencies Other Than State Health Department in 1930 as Base.			Arrangement of States According to Degree of Fragmentation of Community Health Programs, From Least to Greatest, Based on the Number of State Agencies Operating Programs During the 1930-1950 Period	Arrangement of States According to Degree of Fragmentation of Community Health Programs, From Least to Greatest, Based on the Number of Programs Operated by Agencies Other Than State Health Departments during the 1930-1950 Period	Arrangement of States According to Degree of Fragmentation of Community Health Programs, From Least to Greatest, Based on Both the Number of State Agencies Operating Programs and the Number of Programs Operated by Agencies Other than State Health Departments During the 1930-1950 Period	
	1930	1940	1950	1930	1940	1950	1930	1940	1950	1930	1940	1950				
Alabama	8	12	18	100	150%	225%	6	24	36	100%	400%	600%	Minnesota	Alaska	Minnesota	1
Alaska		6	16		100	266		10	22		100	220	Missouri	Maine	Missouri	2
Arizona	6	18	19	100	300	316	4	19	31	100	475	775	Wisconsin	Minnesota	Maine	3
Arkansas	10	10	35	100	100	350	4	17	84	100	425	2100	Tennessee	New Hampshire	Illinois	4
California	9	10	29	100	111	322	7	28	80	100	400	1142	Wyoming	Illinois	Alaska	5
Colorado	8	15	22	100	187	275	6	32	57	100	533	950	Illinois	Missouri	Tennessee	6
Connecticut	10	19	40	100	190	400	7	22	59	100	314	842	New Jersey	Rhode Island	New Hampshire	7
Delaware	7	10	41	100	142	585	4	13	55	100	325	1375	Maine	Nevada	Rhode Island	8
Florida	7	21	28	100	300	400	6	30	48	100	500	800	Rhode Island	Virginia	Wyoming	9
Georgia	6	12	18	100	200	300	3	26	49	100	866	1633	Washington	Tennessee	Wisconsin	10
Hawaii	1	7	18	100	700	1800	0	12	41	100	∞	∞	New Hampshire	Wyoming	Alabama	11
Idaho	7	9	16	100	128	228	4	12	29	100	300	725	Vermont	Oregon	Nevada	12
Illinois	10	13	17	100	130	170	9	41	46	100	455	511	Maryland	Alabama	Oregon	13
Indiana	8	10	24	100	125	300	8	35	56	100	437	700	Montana	Utah	Utah	14
Iowa	8	15	27	100	187	338	9	40	64	100	444	711	Alabama	Wisconsin	Virginia	15
Kansas	10	14	32	100	140	320	6	32	56	100	533	933	Idaho	North Carolina	Massachusetts	16
Kentucky	4	9	31	100	225	775	2	11	39	100	550	1950	Nebraska	North Dakota	Vermont	17
Louisiana	7	26	30	100	371	428	6	25	81	100	416	1350	Massachusetts	Massachusetts	Idaho	18
Maine	9	11	18	100	122	200	8	24	36	100	300	450	New York	Ohio	New York	19
Maryland	8	19	18	100	237	225	5	25	44	100	500	880	Utah	Indiana	Montana	20
Massachusetts	11	17	26	100	154	236	8	38	55	100	475	687	West Virginia	South Dakota	Nebraska	21
Michigan	7	14	29	100	200	314	6	34	66	100	566	1100	Oregon	Iowa	Maryland	22
Minnesota	12	14	10	100	116	83	9	44	42	100	488	466	Alaska	New York	North Carolina	23
Mississippi	6	9	22	100	150	366	3	14	43	100	466	1433	Colorado	Idaho	Washington	24
Missouri	10	12	13	100	120	130	7	16	37	100	228	528	Nevada	Vermont	New Jersey	25
Montana	8	18	18	100	225	225	5	20	41	100	400	820	Virginia	Nebraska	Ohio	26
Nebraska	6	8	14	100	133	233	7	18	53	100	257	757	Ohio	Arizona	North Dakota	27
Nevada	8	11	22	100	137	275	6	14	34	100	233	566	North Carolina	Florida	Indiana	28
New Hampshire	11	15	24	100	136	218	9	28	42	100	311	466	Georgia	Montana	Iowa	29
New Jersey	9	14	16	100	155	177	7	26	69	100	371	985	Indiana	Connecticut	Arizona	30
New Mexico	9	12	30	100	133	333	4	15	63	100	375	1575	North Dakota	Maryland	Colorado	31
New York	13	11	32	100	84	246	9	33	65	100	366	722	Michigan	Dist. of Columbia	West Virginia	32
North Carolina	9	14	26	100	155	288	6	20	38	100	333	633	Arizona	Pennsylvania	South Dakota	33
North Dakota	12	18	37	100	150	308	10	26	67	100	260	670	Kansas	Washington	Kansas	34
Ohio	10	17	28	100	170	280	9	47	62	100	522	688	California	Kansas	Florida	35
Oklahoma	7	13	31	100	185	442	4	24	65	100	600	1625	New Mexico	Colorado	Michigan	36
Oregon	11	14	29	100	127	263	8	28	47	100	350	587	Iowa	South Carolina	Connecticut	37
Pennsylvania	9	9	33	100	100	366	8	24	72	100	300	900	Arkansas	New Jersey	Pennsylvania	38
Rhode Island	8	10	16	100	125	200	7	28	39	100	400	557	South Carolina	West Virginia	California	39
South Carolina	6	10	21	100	166	350	4	11	38	100	275	950	Mississippi	Michigan	Georgia	40
South Dakota	6	11	22	100	183	366	5	19	35	100	380	700	Pennsylvania	California	South Carolina	41
Tennessee	9	9	13	100	100	144	7	19	40	100	271	571	South Dakota	Louisiana	Dist. of Columbia	42
Texas	6	13	29	100	216	483	4	17	79	100	425	1975	Connecticut	Delaware	New Mexico	43
Utah	5	11	13	100	220	260	6	14	37	100	233	616	Florida	Mississippi	Mississippi	44
Vermont	9	10	20	100	111	220	6	19	45	100	316	750	Louisiana	New Mexico	Louisiana	45
Virginia	9	12	25	100	133	277	9	34	51	100	377	566	Oklahoma	Oklahoma	Arkansas	46
Washington	9	14	18	100	155	200	6	25	54	100	416	900	Dist. of Columbia	Georgia	Delaware	47
West Virginia	10	14	26	100	140	260	5	36	53	100	720	1060	Texas	Kentucky	Oklahoma	48
Wisconsin	12	13	17	100	108	141	8	39	50	100	487	625	Delaware	Texas	Texas	49
Wyoming	8	12	13	100	150	162	7	18	41	100	257	585	Kentucky	Arkansas	Kentucky	50
Dist. of Columbia	4	28	19	100	700	475	3	39	27	100	1300	900	Hawaii	Hawaii	Hawaii	51
Total	412	673	1189				307	1263	2563	100	411	834				
State Average	8.24	13.19	23.31	100	160	282	6.14	24.76	50.25							

TABLE 2

DISTRIBUTION * OF COMMUNITY HEALTH SERVICES AMONG STATE AGENCIES IN LOUISIANA, ACCORDING TO TYPES OF PROGRAMS, 1930, 1940, 1950

	1930					1940							1950												
	State Board of Health	State Dept. of Education	T.B. Commission	Special Boards		State Board of Health	State Dept. of Education	State Dept. of Welfare	State Dept. of Labor	Special Boards or State Hospitals	Other State Agencies		State Board of Health	State Dept. of Education	State Dept. of Welfare	State Dept. of Hospitals	State Dept. of Agriculture	State Dept. of Institutions	State Dept. of Labor	State Dept. of Public Safety	State University	Wild Life & Fisheries Commission	Special Boards	Other State Agencies	
Vital Statistics	x					x							x												
Laboratory Services	x					x							x				x			x					
Distribution of Biologicals	x					x							x												
General Communicable Disease Control	x					x	x			x			x			x	x								
Tuberculosis Control	x					x		x		x 1			x												
Venereal Disease Control	x					x				x 1			x			x 2					x				
Hookworm Control	x					x							x												
Pneumonia Control						x																			
Malaria Control	x					x							x		x	x 2									
Maternal and Child Health Services	x					x							x												
Maternity Hygiene	x					x				x			x												
Infant and Preschool Hygiene	x					x							x												
Midwife Control	x					x							x												
School Health Services	x	x				x	x						x	x		x 2		x			x				
Public Health Nursing	x					x							x												
Nutrition Services						x							x	x	x						x				
Handicapped Children's Services													x	x	x	x		x							
Crippled Children's Services						x							x	x	x	x 2									
Vocational Rehabilitation						x	x						x	x	x	x 2		x							
Dental Services						x		x					x	x	x	x									
Licensure for Health Reasons				x 3						x 3			x		x								x 3		
Cancer Control						x				x 1			x			x					x				
Heart Disease Control													x			x									
Diabetes Control																x									
Prevention and Treatment of Blindness	x					x				x 1			x	x	x	x 2					x				
Mental Health Services	x									x 1			x	x	x	x 2					x		x		
Arthritis and Rheumatism Services and Hygiene of Aging																									
Human Blood Program													x												
Ceneral Medical Care						x				x 2	x				x	x 2					x				x1
Accident Prevention													x	x			x		x	x	x				x2
Mosquito and Other Insect Control	x					x							x				x								
Pest Mosquito Control						x							x												
Rodent Control	x					x							x				x								
Ice Industry Hygiene	x					x							x												
Bottled Water Control	x					x							x												
Control of Carbaga: Collection and Disposal	x					x							x												
Water Pollution Control						x							x				x				x	x	x		
Control of Water Supplies	x					x							x	x							x				
Control of Sawage Disposal	x					x							x	x							x				
Smoke, Fumes, and Odor Control	x					x							x												
Hygiene of Housing											x		x												
Plumbing Control	x					x							x										x		
Control of Hotels, Camps, Bathing Places, etc.	x					x				x			x												
Food and Drug Control	x					x							x										x		
Shellfish Sanitation	x					x							x									x			
Milk Sanitation	x					x							x				x				x				
Occupational Health Services													x	x					x						x
Industrial Hygiene									x				x	x					x						x
Swimming Pool Control	x					x							x												
Health Education	x	x				x	x						x	x	x	x	x	x		x	x		x 2	x1	
Health Services for Migratory Labor																									
Workingmen's Compensation									x										x						
Alcoholism: Control and Rehabilitation																							x		
Hospitalization: Ceneral				x						x						x							x		
Hospitalization: Tuberculosis	x		x			x				x				•	'	x							x 1		
Hospitalization: Mental				x 1						x 2						x 3									
Expansion and Improvement of Hospitals, Health Centar, and Nursing Homes													x			x							x		
Research	x					x					x		x			x			x		x				

* Source References: Health Departments of States and Provinces of the United States and Canada, Public Health Bullatin No. 184 (Revised),1932
Distribution of Health Services in the Structura of State Covarnment, Public Health Bulletin No. 184 (Third Edition), 1943
Distribution of Health Servicas in the Structura of State Govarnment 1950, Public Health Service Publication No. 184, 1954
Biannial Rapnrts Louisiana State Board of Health

1. Two Saparata agancies
2. Thraa saparata agancias
3. Mora than thraa saparata agancias

Fragmentation, therefore, advanced at a dizzy pace in a score of years, and still continues unabated. The State Board of Health, originally organized as the State agency to deal with community health matters, is rapidly losing its intended function, while other state agencies are taking on responsibilities in areas in which they were not intended to function, and for which they are not organized or competent to act.

The more important events leading to further fragmentation of community health services in Louisiana since 1950 are outlined below:

1954—The program for establishment of evaluation centers for exceptional children was transferred to the State Department of Hospitals from the State Board of Health.

1954—The inspection and licensing of private institutions caring for and training the mentally retarded became a program of the State Board of Institutions, and in 1960 was transferred to the State Department of Hospitals.

1956—Mandatory supervision and licensing was established as a responsibility of the State Department of Public Welfare (non-mandatory authority was placed in this department in 1938) for the following:

a) Child caring institutions.
b) Independent boarding homes serving seven or more children.
c) Day care centers serving ten or more children.
d) Maternity homes.

1956—Inspection, supervision, and licensing of nursing homes was transferred to the State Department of Hospitals from the State Board of Health.

1957—The vendor medical care program was established in the State Department of Public Welfare.

1960—The Louisiana Commission on Alcoholism was transferred to the State Department of Hospitals.

1960—The Medical Care program for the aging population was established in the State Department of Public Welfare.

1960—Establishment of training, treatment, and rehabilitation schools for retarded children in Leesville, Ruston, and in Southeast Louisiana was authorized under the State Department of Hospitals.

1960—Establishment of a Structural Pest Control Commission was authorized to control, exterminate, and eradicate insects creating hazards to the health, safety, and welfare of the public. (This was, for over a half century, the province of the State Board of Health.)

1960—An appropriation of $680,000 to provide comprehensive services for the mentally retarded in day care and residential centers was given to the State Departments of Education and Hospitals.

1960—Act No. 263 was written in such a way as to make possible the legal violation of confidentiality of medical information and records.

Consequence of Fragmentation

In summary, fragmentation of community health services:

1. Isolates the preventive services from the therapeutic, the medical from the sanitary, and separates the rehabilitative services from the preventive and therapeutic; also, splinters each program area into a patchwork of disconnected, rambling services.

2. Makes coordination of agency health services an insuperable task due to the magnitude of the number of dissociated services needing coordination and the complex interrelationships required to combine harmoniously so many programs among so many agencies. (The administrative disadvantages of a little fragmentation can be overcome by cooperation, while the amount of time and effort and personnel required to overcome a great deal of fragmentation makes the term, "cooperation," a facade, cynically used, behind which to hide the organizational and administrative jungle in government.)

3. Creates confusion and chagrin among the people needing and applying for health services from such a disjointed complex of agencies.

4. Deteriorates the quality of services rendered.

5. Requires duplication of administrative organization and operative personnel which significantly increases the cost of services.

6. Stimulates rivalry between medically directed and non-medically directed agencies, and between the non-medically directed agencies themselves in their scramble to absorb other health programs.

7. Engenders expensive competition in the employment of personnel and the purchasing of hospital, medical, and other health services and facilities.

8. Exposes health records and medically confidential information to such a complicated system of interchange among a variety of agencies that the confidentiality of information exchanged between patient and physician breaks down.

9. Separates from the guarded influence of the physician the medically competent judgment and counsel required in the overall planning and in the daily ongoing administration of health programs.

A Program of Urgency

That a new approach to community health problems is an urgency for organized medicine is putting the problem mildly. The manner in which organized medicine reacts to community health programs, particularly those pertaining to medical care, will lay the basis for the future leadership status of physician in community affairs. Whether the medical profession will assure for itself a place of dignity and esteem in the future will be determined by its performance in the following critical areas:

1. Negativism toward governmentally organized community health programs must cease. The medical profession must become the pioneer in studying, proposing, planning, and participating in the administration and operation of health programs needed by the community.

2. In order to counsel wisely and act with sound judgment where the organizational and administrative nature of government agencies and health services are involved, the State Medical Society must charge a permanent committee with studying such problems. This committee, armed with accurate data could then mobilize efforts for promoting:

a) Sound health organization and administration by competently trained medical leaders.

b) Government action in reducing the fragmentation of community health services to a minimum and thereby (1) eliminating the waste of funds caused by duplication of administrative and operational personnel, and (2) increasing the quality and scope of services when necessary. Finally, after having simplified the machinery for rendering health services, the profession will be able more easily to expedite its watch and guard against further fragmentation, and against the introduction of undesirable program and practice into community health services.

3. The medical profession must be represented in government in order to protect the interest of the community while, at the same time, guiding the development and administration of community health programs in a direction satisfactory to the progressive evolution of the profession itself. The most plausible representative of the profession in government is the public health physician. The integrity of public health and the private practice of medicine must be achieved in order to regain the leadership of the physician in community health affairs.

4. The medical profession must take the initiative in studying the curricula of medical schools to be able to make recommendations for a teaching program that will indoctrinate medical students in a balanced understanding and appreciation of medicine and ecological hygiene, and the responsibility of the physician in the planning and operation of community health services.

5. In its already planned program for giving guidance to voluntary health agencies, organized medicine must be guided by the principle that voluntary health agencies are not competitors of government health agencies, but are, instead, the activating forces which spearhead campaigns of public health education and com-

munity health demonstrations of new programs made necessary by social changes.

References

1. Organized Medicine and the Crisis in Community Health Programs, Ben Freedman, Journal of the Louisiana State Medical Society, Vol. 112, Pp. 231 237 (June) 1960.

2. Distribution of Health Services in the Structure of State Government, 1950. Public Health Service Publication No. 181, U. S. Department of Health, Education, and Welfare, P. 14.

3. Medical Societies and Voluntary Health Agencies, Raymond M. McKeown, M. D., member of the Board of Trustees and Sec. Treas. of AMA, Bulletin of American Assn. of Public Health Physicians, Vol. VII, No. 6, Nov. 1960.

4. J.A.M.A., Vol. 173, No. 9, July 2, 1960, Pp. 975 977.

5. Physician and Public Health, Educational and Scientific Trust of Pennsylvania Medical Society, Vol. 14, January 1960, P. 2.

6. Pennsylvania Medical Society and Public Health, Thomas W. McCreary, M. D., Physician and Public Health, Education and Scientific Trust of Pennsylvania Medical Society, Vol. 17, December 1960, P. 2.

Protection Against Disease

It was reserved for this generation to claim for human health, supremacy over all material interests; lift sanitation to the dignity of a science, and to demand for the individual and for the nation, protection against disease.

The announcement of a new philosophy and the setting on foot of new devices for securing a longer life, arrested individual and governmental attention; and have opened up a new chapter in human history. It is in the interest of this movement that we are assembled in counsel today in the heart of the Mississippi Valley.

In the protection of the world's sanitation you will find enacted a higher law than any rules of lower courts which prescribe geographic lines as the limit of health measures and humanity's best being. Science outruns the surveyor and man's demand for life overlaps all lines born of a Jacob's staff and chain.

Speed, J. J.: Annual Address before the Sanitary Council of the Mississippi Valley in Session at Cairo, Illinois, April 20, 1882, New Orleans M. & S. J. 10:911, (June) 1882.

A Plea For Safe Administration Of Anesthetics*

• The author cites the most important factors that ensure the patient's protection from an anesthetic death.

SAMUEL G. WELBORN, M. D.†
New Orleans

IT is my firm conviction that there is absolutely no excuse for an anesthetic death. Anesthetic deaths are due to (1) improper or inadequate preoperative preparation of the patient; (2) improper administration of the anesthetic; and (3) inadequate or improper postoperative care while the patient is recovering from the effects of the anesthetic. This discussion will be concerned primarily with the deaths due to improper administration of the anesthetic but a few words about the other two groups would seem pertinent.

The importance of proper preoperative preparation of patients, particularly the elderly and those considered poor surgical and anesthetic risks, is being stressed more and more in the current medical literature. This is, of course, only partly the responsibility of the anesthesiologist, but proper preoperative correction of such deficiencies as anemia, low blood volume and dehydration has considerably lowered the surgical mortality and morbidity rates. During the past several years it has been shown conclusively that adequate recovery room personnel can do much to prevent, if not eliminate entirely, many unnecessary deaths in the immediate postoperative recovery period.

It should be pointed out that the ideas expressed in this paper were formulated not only from experience during two years of residency training and four years of practice in the field of anesthesiology, but also from three years of residency training and two years of private practice in the field of urology. During my five years' experience in urology, anesthetics were administered to our patients exclusively by nurse anesthetists, so that my thoughts are based on observation of both anesthesiologists and nurse anesthetists.

What can be done to prevent deaths during induction and maintenance of anesthesia due to improper administration of anesthetic agents? The most important prerequisite is an adequately trained anesthesiologist. The best anesthesiologist is one who has genuine interest in the patient's welfare. If induction and maintenance of anesthesia is to be safe, the anesthetist must observe four requisites.

1. Maintenance of Adequate Airway

To me the most important requirement for safe administration of an anesthetic, but one apparently too often neglected, is maintenance of an adequate airway. Dr. Stuart Cullen's [1] remarks on this subject are particularly pertinent. He said that an attempt to strangle a person outside of an operating room is a criminal offense, and yet day after day, patients are "strangled" in operating and delivery rooms under the guise of anesthetization but no arrests are made. Despite Adriani's [2] statement that noisy respiration is obstructed respiration, day after day, some anesthetists not only tolerate noisy respiration but allow it to persist for indefinite periods of time. There is no substitute for judgment and experience in maintenance of a good airway, and the anesthetist who has not mastered this art cannot administer anesthetics safely.

* Presented at the Eightieth Annual Meeting of the Louisiana State Medical Society, May 4, 1960, in Baton Rouge.

† From the Department of Anesthesiology, Ochsner Clinic, New Orleans.

A perfect airway can usually be maintained without intratracheal intubation. This procedure should be reserved for those cases in which it is truly indicated and must be performed by one skilled in use of the laryngoscope. It should, however, be emphasized that when indicated intratracheal intubation should be employed without hesitation. Compromise in maintenance of an airway will lead to hypoxia and hypercarbia, which are unmistakably the forerunners of cardiac arrest. In this connection, I cannot emphasize too strongly the fact that partial or slight obstruction for a long time is just as hazardous as complete or severe obstruction for a short time, particularly from the standpoint of production of hypercarbia.

2. Close Observation of Anesthetized Patient

No one requires such a close, constant observation as does the anesthetized patient. This has been appropriately expressed by Muller,[3] who said:

> "*Death* treads on the heels of pain-allaying substance, and if the doctor wants to relieve pain he must come to terms with death. A narcotic (or anesthetic) works only by throwing the patient into an artificial sleep which is death's own brother; only by carefully devised means can the doctor save from death those whom he has rendered insensitive to pain. Every doctor who relieves pain must measure his strength and skill with *Death*."

It is indeed appalling to discover the number of anesthetics administered every year during which not even the patient's pulse rate or blood pressure is recorded. This is not directed at cases of open-drop ether administered to infants and small children but rather to the alarming number of minor operations on adults carried out with use of sodium pentothal-nitrous oxide anesthesia without even taking the patient's blood pressure. There is no such thing as a minor anesthetic. Every general anesthetic is a major anesthetic regardless of duration, type or quantity of the agent used. I do not believe it is possible to determine the status of the circulatory system during "pentothal-anesthesia" without use of a blood pressure cuff. In contrast to Beecher and Todd's [4] report implicating curare as the leading producer of anesthetic deaths in this country, a recent survey showed pentothal to be the main offender in Great Britain. The British,[5] therefore, concluded, "Pentothal is fatally easy to give." This appears to be sufficient evidence to state conclusively that pentothal should never be given without constant close observation of the pulse rate, respiratory rate, and blood pressure.

This constant close observation is mandatory regardless of the anesthetic agent used. As further indication of the individual contrast in the way in which anesthetics are being administered in this country, many anesthetists are not content with the constant monitoring of pulse, respiration, and blood pressure to determine planes of anesthesia but in addition advocate continuous use of the electrocardiogram and electroencephalogram.

Equally disturbing in present day anesthesiology are the numerous anesthetic records in which the pulse and blood pressure are recorded only at intervals of ten or fifteen minutes, if at all, even though from the record it was quite obvious that during these intervals the patient was exhibiting such manifestations as severe hypotension, tachycardia, or unexplained apnea. Safety in anesthetization demands that the pulse rate be taken as continuously as is possible and that the blood pressure be taken at least every five minutes during induction and maintenance of anesthesia. Further, if the plane of anesthesia is deepened, if the position of the patient on the operating table has been changed, or if there is any tendency to hypotension, hypertension, bradycardia, tachycardia, or unexplained apnea at the last reading of pulse and blood pressure, these readings should be repeated at one or two minute intervals until the anesthetist is definitely assured that the patient's condition is satisfactory. Only by such constant close monitoring of the pulse and blood pressure can impending cardiac arrest be detected, and the only

treatment of cardiac arrest, which is always satisfactory, is prevention of cardiac arrest before it occurs.

It is unfortunate that the anesthetist has only two hands, for he certainly could use several more in order *constantly* to palpate the pulse, hold the chin up to maintain an airway, assist or control respirations, administer open-drop ether, *intermittently* check the blood pressure, record all these findings on the anesthesia record, regulate various intravenous drips, inject intravenous medications and *occasionally* put up the ether screen, adjust the light or manipulate the operating table. The well-trained anesthesiologist knows which of these duties is most important and should occupy his hands at any given moment, but it seems that there is in our country today an individual who may be called a "no-hand anesthetist." For shortly after induction of anesthesia he proceeds to do anything with his hands except use them for the numerous necessary duties. This individual is a definite menace to safe administration of anesthetics.

3. Choice of Anesthetic

Anesthetic deaths are probably never the direct result of the anesthetic agent with the rare exception of cases of ventricular fibrillation occurring during induction with cardiotoxic agents, such as chloroform, ethyl chloride and trilene. Anesthetic deaths blamed on certain anesthetic agents almost always are caused by the anesthetist in one of the following ways. An agent was administered (1) in a way or for a purpose in which it was never intended to be used, (2) without adequate knowledge of its actions and contraindications, or (3) in toxic quantities, or more simply in overdosage. It should be remembered that every anesthetic agent is a poison and should be administered in the smallest amount that is necessary to satisfy the surgeon's requirements. Too often it is stated that a patient would not tolerate or was allergic to a certain anesthetic agent, whereas in most of these cases, the patient's reaction was the result of ignorance or lack of technical skill on the part of the anesthetist.

The following incident is an excellent example of how *not* to administer an anesthetic safely. Several years ago an "anesthetic death" occurred in a normal, healthy 17 year old girl undergoing tonsillectomy in a North Carolina hospital. "Anesthesia" was induced by intravenous administration of sodium pentothal and curare without benefit of intratracheal intubation or infiltration of a local anesthetic agent. This was an "anesthetic" death in which a true anesthetic agent was not used at all. Pentothal is nothing more than a hypnotic. It has no analgesic properties; thus it cannot be classified as a true anesthetic agent. It is quite true that pentothal can produce a state comparable to anesthesia by placing the patient under deep hypnosis with its attendant pronounced depression of circulation and respiration. However, I do not believe pentothal should be used for this purpose. Rather it should be used to induce and maintain light hypnosis along with another agent like nitrous oxide, ethylene, or cyclopropane, to produce the analgesic action necessary for anesthesia. In the case just cited pentothal had been used to produce a state of deep hypnosis with resultant severe depression of circulation and respiration; curare had been used to depress respiration further, and without control of the airway, hypoxia and hypercarbia had been well established. In other words, the anesthetist had satisfied all the requirements for the production of cardiac arrest!

Certain general practitioners in this country doing obstetrics, whom I like to call "arm-chair anesthesiologists," are in the habit of having the obstetrical nurse hold the Duke Inhaler for Trilene over the patient's face to produce anesthesia so that they may carry out delivery and repair with the patient anesthetized. Trilene should never be used to produce obstetrical anesthesia and instructions that come with the Duke Inhaler specifically state that it is to be used only for the

production of trilene analgesia. This is another example of use of an agent in a way in which it should never be used.

A nurse anesthetist is not expected to have a thorough knowledge of human physiology, biochemistry or pathology but she certainly should have a reasonable knowledge of the pharmacologic actions of every anesthetic agent or adjunct which she uses. In addition, she should know exactly what effect each agent is expected to have on the bodily systems. One should never use an agent about which he knows little or nothing simply because one of his colleagues has used this agent without difficulty.

A few words about muscle relaxants would seem pertinent here. The muscle relaxants are wonderful adjuncts to smooth, well-conducted, safe, general anesthesia. They should never be used as a substitute for good anesthesia and they are all too frequently used to cover up poor anesthesia. Obviously, muscle relaxants should never be used by individuals not thoroughly acquainted with their actions, and not capable of dealing with complications that may arise. The contraindications to the various anesthetic agents are listed in standard textbooks on anesthesia.

Every anesthetic agent has its own margin of safety, that is, the difference between the concentration necessary in the body to produce surgical anesthesia and that necessary to produce death. If the anesthetist knows the agents and watches the patient carefully, he should never be guilty of causing an anesthetic death by overdosage.

4. Restraints and the Explosion Hazard

Nothing is more disconcerting and unnecessary than to have a patient fall or jump off a table or stretcher during the induction of, or recovery from, general anesthesia. The patient should always be well restrained before induction of general anesthesia regardless of the anesthetic used and the anesthetist should always be prepared to meet and deal effectively with recovery excitement. Prevention is the only treatment for excitement accidents due to an anesthetic.

I hope all of you have had an opportunity to see Dr. George Thomas's demonstration or moving picture on explosion hazards in the operating room.* For those who have witnessed it, no further discussion of explosion hazards is necessary; those who have not seen the demonstration are strongly encouraged to do so, for it is more effective than any description can be.

Conclusion

In conclusion, it may be reiterated that anesthetic deaths are absolutely inexcusable. If the four requisites for safe induction and maintenance of anesthesia, that is, maintenance of an adequate airway, close observation of the patient, correct choice of anesthetic and proper institution of restraints and explosion precautions are observed, the mortality rate from induction and maintenance of anesthesia will be minimal.

References

1. Cullen, S. C.: Anesthesia, A Manual for Students and Physicians, ed. 5, Chicago, The Year Book Publishers, 1957, p. 48.

2. Adriani, J.: Techniques and Procedures of Anesthesia. Springfield, Ill., Charles C Thomas, 1952, p. 145.

3. Muller, Fülop: Quoted by Tarrow, A. B.: Basic Sciences in Anesthesiology, ed. 2, San Antonio, Tex., The Lydette Publishing Co., 1955, p. iii.

4. Beecher, H. K. and Todd, D. P.: A study of the deaths associated with anesthesia and surgery. Ann. Surg. 140:2, 1954.

5. Anesthesia deaths. Foreign letters. J.A.M.A. 160: 699, 1956.

Discussion

Dr. A. J. Ochsner (Alexandria): It is with great pleasure that I discuss this well prepared and thoughtful paper of Dr. Welborn. I believe that he has very adequately covered the innumerable duties of the anesthesiologist in the safe administration of an anesthetic—duties which must be performed in order that the administration may be considered safe.

I prefer the last sentence of his conclusion, namely "the mortality rate from induction and maintenance of anesthesia will be minimal" to the expression that "anesthetic deaths are absolutely inexcusable." I believe that there may be

* Each year Dr. Thomas presents this demonstration in various parts of the country. The moving picture may be obtained from Abbott Laboratories, Chicago, Ill.

such a thing as a true accident over which only The Great Physician has control. It is, however, or should be, inexcusable to improperly administer anesthetics. We strive constantly to improve our knowledge, our drugs, and our abilities and work in what we believe to be the direction of Utopia—in this case—no death from anesthesia.

I believe that more emphasis should be put on the preoperative preparation of the patient and the postoperative handling of the patient than can possibly be presented in such a short discussion. These two factors hold roles of absolutely major importance in the safe guidance of a patient from entrance into a hospital to the patient's happy trip home.

I would like to commend Dr. Welborn for his timely presentation of this important plea for safety.

The Red Cross of the Geneva Convention

We do not conceive that we can better set forth the nature, object and origin of this association, than by extracts from this little pamphlet whose title heads this page, allowing it to speak for itself of its character, its principles, and its method of work. It is not a vague plan of what maybe, but the sketch of an association in full and active organization throughout all of Europe and parts of South America and Asia. It has received the governmental sanction of thirty-two of the nations of the civilized world, the United States of America giving its adherence to the Geneva Conference on March 1, 1882. Its power to really and practically ameliorate the horrors of war were signally proved in those wars which have occurred in Europe, since the organization of the society in 1863.

New Orleans M. & S. J. 10:943 (June) 1882).

Cardiac Rupture and Hemopericardium Following Myocardial Infarction*

• The incidence of myocordial rupture while rare is by no means a pothologicol curiosity. The incidence in the present report from Touro Infirmory during o ten yeor period was almost 1 per cent of all autopsies ond 6 per cent of oll outopsied myocardial inforcts.

EVARISTE J. TRAHAN, M. D.
AMBROSE J. HERTZOG, M. D.
New Orleans

MYOCARDIAL infarction is a common present day illness, and with an increasing number of older people in the population the incidence will probably increase. The patient with myocardial infarction may fall heir to many complications, one of which is rupture of the myocardium.

This condition has stimulated the interest of physicians since the time of William Harvey [1] who, in 1647, was the first to describe it. He and subsequent writers thought that myocardial rupture was a result of fatty metamorphosis of the heart. It was not until 1861 that Malmsten [2] first described myocardial rupture resulting from infarction of the myocardium. Since that time an ever increasing number of cases have been reported. Krumbhaar and Crowell [3] in 1925 collected 734 cases from the literature. Many cases have been added since then.

Material

This paper is a study of 20 autopsied cases of ruptured hearts following acute myocardial infarction that occurred at Touro Infirmary during a ten year period from 1950 through 1959. All of the cases of rupture were complete ones with an associated hemopericardium. Figure 1 shows a large perforation of the anterolateral surface of the left ventricle.

The twenty cases of rupture were studied both clinically and pathologically. A like number of fatal autopsied cases of non-ruptured myocardial infarcts were also studied and used as a control. Particular attention was paid to blood pressure, heart failure, exertion, age of the infarcts, fibrosis and drug administered. The twenty cases of rupture were then compared to the control and both compared to the literature.



Figure 1—Showing large perforation of anterior surface of left ventricle.

* Presented at the Eighty-first Annual Meeting of the Louisiana State Medical Society, May 9, 1961, in New Orleans.

From the Department of Pathology, Touro Infirmary.

Incidence

During the ten year period under consideration 2,770 patients were admitted to Touro Infirmary with a diagnosis of acute myocardial infarction. Of these 731 died of their disease which gives a mortality of 26.3 per cent.

The incidence of myocardial rupture in large autopsy series ranges from 0.04 to 1.09 per cent.[1-5] The incidence at Touro Infirmary was 0.84 per cent. Table 1 shows that 6.0 per cent of myocardial infarcts in our series coming to autopsy had ruptured. This compares in general with percentages from the literature. Cardiac rupture is slightly more common in mental institutions [4] and Coroner's series. The apparent reason for this is the large number of "silent infarcts".

Age and Sex

The age in the ruptured groups ranged from 53 to 80 years with an average of 65.8 years, while in the control it varied

TABLE 1
PERCENTAGE OF INFARCTS THAT RUPTURE

Author	No. infarcts	No. rupture	% rupture
Edmondson [2] Hoxie	865	20	3.4
Bean [6]	283	17	6.0
Wartman [7] Hallerstein	150	6	4.0
Wang [8] Bland White	556	23	4.1
Zinn [9] Cosby	679	34	5.0
Touro	329	20	6.0

from 46 to 89 years with an average of 62.4 years. No significant difference exists between these two groups. This is in keeping with the literature [1, 3, 5] that cardiac rupture in younger individuals is more apt to be in the atria and associated with trauma.

In the ruptured group there were 10 males and 10 females while in the control there were 13 males and 7 females. Here, too, there is close agreement with the literature. Most series [3, 6, 10] contain an equal number of the sexes while Cecil and Loeb [11] state that myocardial infarct affects males 6 times more frequently than females.

Age of the Infarct

Utilizing the clinical record of the two groups the duration of the infarct was estimated. Multiple histological slides were then studied and the age again estimated independently of the clinical record. All cases were placed into age groups comprising 1 to 3, 4 to 7, 8 to 11 and 12 to 14 days. In judging the histologic age of myocardial infarcts, the criteria of Mallory, White and Salcedo-Saljor were used.[10]

For the first six to eight hours following occlusion of a coronary artery there is no histologic change in the cardiac muscles. The first change is an increased pinkness of the muscle fibers. Very soon after this there is pyknosis of the nuclei. The muscle striation is still present but difficult to see. These are soon lost, however, and at the same time there is beginning neutrophilic infiltration. At about twelve hours this is mainly perivascular but soon infiltrates the entire area of necrosis but remains rather sharply limited to it. At this same point there is evidence of interstitial hemorrhage. At about two days following infarction the neutrophilic infiltration is quite heavy and some begin to show necrosis. Even though some become necrotic at two days the neutrophilic invasion continues and reaches its peak in four days.

At approximately the fifth day there is beginning proliferation of fibroblast and capillaries. This is at first slow and limited to the edge of the infarct. At about eight to nine days the connective tissue is fairly prominent. A characteristic of this tissue is that it stains light blue as does all young connective tissue. At about ten days macrophages make their appearances and rapidly increase in number. These macrophages contain a brown pigment, lipofuscin, which is derived from the necrotic muscle. By the end of the second week these macrophages have removed about 1 mm. of dead muscle from

the edge of the infarct. As healing progresses the fibrous tissue becomes more dense and becomes collagenized. This process continues and by two to three months there is the formation of a dense scar. The adequacy of the remaining circulation and the size of the infarct may alter and prolong this time sequence. Wessler, Zoll and Schlesinger, using a special injection technique,[12] demonstrated that collateral circulation was incomplete or absent in areas of rupture while the same was not true of unruptured infarcts. Large infarcts heal much slower than smaller ones. It takes some time for macrophages to penetrate the center of a large infarct so that necrotic muscle may persist for a long time.

Table 2 shows the correlation between the clinical and histologic age of the infarcts. Notice that this correlation is good in the ruptured groups. Only in cases No. 6 and No. 20 were there any wide discrepancies. In this group the clinical age was more clear-cut with a definite time of onset of symptoms. The correlation in the control group is poor. Clinical ages could frequently not be obtained from the records. The onset of the infarct symptoms is frequently lost in a hodgepodge of old cardiac symptoms. This is in keeping with some authors [12] who found that old infarcts, angina, and prior episodes of heart failure were more common in the non-ruptured group.

The difference in the amount of fibrosis present in the two groups is significant. The usual cause of this fibrosis is a preceding infarct. It appears that fibrosis protects the myocardium from rupture.

Table 3 shows the number of ruptures occurring and different days after infarction. The great majority occurred during the first two weeks with 70 per cent of these occurring during the first week. In our series 70 per cent occurred during the first week and all occurred within the first eleven days. Maher, Mallory, and Laurenz [4] found that over 50 per cent of their series ruptured within the first five days and Edmondson and Hoxie found that 98.5 per cent occurred within the first sixteen days.

Heart Failure

In the ruptured groups, 35 per cent had heart failure associated with their infarct compared to 5 per cent in the control

TABLE 2
CORRELATION BETWEEN CLINICAL AND HISTOLOGICAL AGE OF MYOCARDIAL INFARCTS

	RUPTURED			UNRUPTURED		
No.	Clinical Age—Days	Histological Age—Days	Amount of Fibrosis	Clinical Age—Days	Histological Age—Days	Amount of Fibrosis
1	4	1-3	0	3	1-3	0
2	1	1-3	0	11	11-14	+3
3	6	1-3	0	9	1-3	0
4	2	1-3	+1	?	4-7	+3
5	9	11-14	0	?	8-10	+3
6	1	11-14	0	?	1-3	0
7	8	11-14	0	3	8-10	+2
8	7	4-7	0	?	8-10	+3
9	11	11-14	0	2	11-14	+3
10	5	1-3	+3	5	4-7	+2
11	7	4-7	0	?	11-14	+3
12	2	1-3	0	?	11-14	+3
13	6	4-7	0	?	1-3	+2
14	1	1-3	0	?	1-3	0
15	1	1-3	0	1	1-3	+2
16	10	8-10	+2	2	1-3	+3
17	10	11-14	0	7	14	+1
18	1	1-3	0	2	1-3	+2
19	1	1-3	0	7	4-7	+3
20	11	1-3	0	?	11-14	+2

TABLE 3
DAY OF RUPTURE OF INFARCT

Author	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Beyond
Mallory [10]															
White															
Salcedo-Saljar	2	1	2	1		4	1		1		1	1		1	
Bean [6]	1	3	1	2	1		3	1				2			1
Wessler [12]															
Zoll															
Schlesinger		2		3	3	2	1	2	1	2	1				2
Maher [4]															
Mallory															
Laurenz	5			3	3	1	1	3		1					2
Touro	5	2		1	1	2	2	1	1	2	2				

group. Prior episodes of heart failure have been found to be less frequent in the ruptured group.[12] In this series 10 per cent of the ruptured cases had such a history, while it was obtained in 35 per cent of the unruptured group. The prior episodes of failure may protect the myocardium by stimulating fibrosis.

Drugs

Various drugs are administered to patients with myocardial infarcts, such as digitalis, diuretics, antibiotics, anticoagulants and Levophed. The question arises whether there is any relationship between drug therapy and ruptured infarcts.

Table 4 shows the number of patients in each group who received these drugs. Notice that digitalis, diuretics, and antibiotics are more common in the control group while the opposite is true of anticoagulants and Levophed.

A relationship between Levophed and myocardial rupture may be explained by the increased work of the heart caused by the increased peripheral resistance. Anything that increases intraventricular pressure or work load will increase myocardial rupture in an infarcted heart.

A relationship between anticoagulants and rupture, however, is difficult to explain. There is no uniform agreement in the literature that anticoagulants are associated with an increased incidence of rupture. Experimental work in dogs [15] failed to demonstrate any adverse effects of anticoagulants when used in myocardial infarction. Some authors [4, 16] in clinical studies have failed to find any increased incidence of rupture following anticoagulant therapy. To be significant the anticoagulant therapy must have been effective at the time of rupture; that is, the prothrombin time must have been in the therapeutic range. Many reports do not give this information and are therefore difficult to evaluate. In a recent study of this problem Lange and Aarseth [17] reported on 69 patients with rupture and effective anticoagulant. Compared to a control group the incidence of hematopericardium was twice as large in the anticoagulant group as compared to the control. Although this group is too small to draw a general conclusion, it is in close agreement with some of the literature.

Blood Pressure

Edmondson and Hoxie, in 1942, demonstrated that hypertension which persisted after infarction was associated with a greater number of ruptures. Since then their findings have been substantiated. Six cases or 30 per cent of the ruptured group had persistent hypertension com-

TABLE 4
EFFECTS OF DRUGS ON RUPTURE

	Digitalis	Diuretics	Antibiotics	Anticoag.	Levophed
Ruptured Infarcts	7	6	2	9	8
Control Group	10	14	6	3	4

pared to 20 per cent of the control group. The difference between these two groups is smaller than usually found.

Exertion

The amount of exertion a patient undergoes is very difficult to evaluate. Restlessness, agitation, vomiting, coughing and belching are only a few of the more common forms of exertion to which infarcted patients are submitted. It is generally agreed that exertion, especially when the cardiac muscle is most necrotic, is correlated with a high incidence of cardiac rupture.

In the ruptured group there were 6 cases which had some form of increased activity. This varied from repeated vomiting to complete ambulation. In the control group there were 5 cases with some increase in amount of activity. The rather close similarity between these two groups points up the fact that the pathogenesis of cardiac rupture is complex and many different factors are involved.

Summary

1. The incidence of myocardial rupture while rare is by no means a pathological curiosity. The incidence at Touro Infirmary for a 10 year period was almost 1 per cent of all autopsies and 6 per cent of all autopsied myocardial infarcts.

2. The ratio of men to women in ruptured hearts is approximately 1 to 1.

3. Rupture is most apt to occur during the first week following infarction. In this series 30 per cent occurred on the first day and 70 per cent occurred during the first week.

4. Fibrosis is more common in the unruptured heart.

5. Prior episodes of heart failure are more common in the unruptured heart.

6. No correlation between most drugs administered and rupture could be established except for anticoagulants and Levophed which probably are associated with an increased incidence of rupture.

7. Persistent hypertension and exertion are definitely more common in the ruptured group.

References

1. Benson, R. L., Hunter, W. C. and Manlove, C. H.: Spontaneous Rupture of the Heart. Report of Forty Cases in Portland, Oregon. Am. J. Path. 9:295, 1933.

2. Edmondson, H. A. and Hoxie, J. J.: Hypertension and Cardiac Rupture. A Clinical and Pathological Study of Seventy two Cases in Thirteen of which Rupture of the Interventricular Septum Occurred. Am. Heart J. 24:719, 1942.

3. Krumbhaar, E. B. and Crowell, C.: Spontaneous Rupture of the Heart. A Clinicopathologic Study Based on Twenty-two Unpublished Cases and Six Hundred and Thirty two from the Literature. Am. J. M. Sc. 170:828, 1925.

4. Maher, J. F., Mallory, F. J. and Laurenz, G. A.: Rupture of the Heart After Myocardial Infarction. New England J. M. 255:1, 1956.

5. Beresford, E. H. and Earl, C. J. C.: Spontaneous Heart Rupture. A Review of Forty-six Cases. Quart. J. Med. 24:55, 1930.

6. Bean, W. B.: Infarction of Heart. Clinical Course and Morphological Findings. Ann. Int. Med. 12:71, 1938.

7. Wartman, W. B. and Hallerstein, H. K.: Incidence of Heart Disease in 2000 Autopsies. Ann. Int. Med. 28: 41, 1948.

8. Wang, C. H., Bland, E. F., and White, P. D.: A Note on Coronary Occlusion and Myocardial Infarction Found Post-Mortem at the Massachusetts General Hospital During the Twenty-five Year Period from 1926 to 1945 Inclusive. Ann. Int. Med. 29:601, 1948.

9. Zinn, W. J., and Cosby, R. S.: Myocardial Infarction. Am. J. Med. 8:169, 1950.

10. Mallory, G. K., White, P. D., and Salcedo-Saljar, J.: The Speed of Healing of Myocardial Infarcts. Am. Heart J. 18:647, 1939.

11. Cecil, Russell L., and Loeb, Robert F.: A Textbook of Medicine. W. B. Saunders Company, 1951. p. 1135.

12. Wessler, Stanford, Zoll, P. M., and Schlesinger, M. J.: Pathogenesis of Spontaneous Cardiac Rupture. Circulation 6:334, 1952.

13. Schlesinger, M. J.: An Injection Plus Dissection Study of Coronary Artery Occlusion and Anastomosis. Am. Heart J. 15:528, 1939.

14. Davenport, A. B.: Spontaneous Heart Rupture: A Statistical Summary. Am. J. M. Sc. 176:62, 1928.

15. Blumgart, H. L., Freedberg, A. S., Zoll, P. M., Lewis, H. D., and Wessler, S.: The Effect of Dicumerol on the Heart in Experimental Acute Coronary Occlusion. Am. Heart J., 36:13, 1948.

16. Clagett, A. J. Jr., Binge, J. H., and Hooker, J. W.: Rupture of the Heart Following Myocardial Infarction: Data from a Small Hospital. Am. J. M. Sc. 219:513, 1950.

17. Lange, H. and Aarseth, S.: Influence of Anticoagulant Therapy on the Occurrence of Cardiac Rupture. Am. Heart J. 56:257, 1958.

Discussion

Dr. Sam A. Threefoot (New Orleans): This presentation makes several points related to the therapeutic management of the patient with myocardial infarction. The first is the reemphasis that the first several days following a coronary occlusion are the most critical in the prognosis of the patient. While it is difficult to correlate exertion with myocardial rupture, this paper supports the generally accepted form of management of complete rest during the period when the cardiac muscle is most necrotic and before fibrosis has developed to a "protective" degree.

A second point is more controversial, and con-

cerns the continuing polemic on the routine use of anticoagulants in the management of myocardial infarction. A paper such as this offers some support to those physicians who wish to be more selective in their use of anticoagulants versus those who use them routinely in every myocardial infarction. Lange [1] and others have reported that hemorrhagic pericarditis or hemopericardium occurs at least twice as frequently in groups treated with anticoagulants as in non-treated groups. This is probably of greater importance to the clinician than rupture, because the mortality is lower. While a recent court decision seems to legislate the use of anticoagulants in myocardial infarction, some selection of cases for this type of therapy is in order, particularly since rupture occurs more commonly in the "first" infarct—the same group in which thromboembolic phenomena occurs less commonly.

The presence of hypertension and use of norepinephrine both have occurred 50 per cent more often in the ruptured group than in the controlled group. Whether or not to use norepinephrine is probably a more difficult decision to make than whether or not to use anticoagulants, since the use of norepinephrine is generally reserved for those patients in cardiogenic shock, who if not treated carry a poor prognosis.

Of further clinical interest is the diagnosis of myocardial rupture and hemopericardium. As pointed out by Sigler,[2] diagnosis of rupture of the free wall is more difficult than that of rupture of the intraventricular septum. Rupture should be suspected, however, in an acute myocardial infarction if the patient has hypertension, is over fifty years of age, who suddenly goes into complete shock and does not respond to therapy, more particularly if the infarction is on the anterior wall. One may observe a loud systolic murmur and thrill in the fourth and fifth left interspaces close to the sternum just before death. It is infrequent, however, that physical diagnosis is performed at the proper time to detect the findings. The signs due to cardiac tamponade are not uncommonly detected. There is narrowing of the pulse pressure, cyanosis, distention of the neck veins, tachycardia, and of course shock associated with rupture which may obscure the picture due to marked sudden circulatory collapse.

The patient with rupture of the intraventricular septum may live for a long time, however. This is characterized by shock, sudden development of a harsh loud systolic murmur over the entire precordium with maximum intensity at the left third interspace close to the sternum and frequently with a palpable thrill. The heart becomes dilated and the picture of right ventricular strain dvelops if the patient survives.

Hemopericardium in nonfatal cases may be recognized by the usual signs of cardiac tamponade, (narrowing of the pulse pressure, shock, tachycardia, enlargement of the cardiac shadow, parodoxical pulse), venous distention with the increased venous pressure and possibly friction rub, cyanosis and signs of congetive heart failure.

For the nonfatal cases of intraventricular septal perforation or of hemopericardium, treatment consists of prolonged rest, proper use of digitalis and diuretics and other symptomatic therapy, such as drugs for pain and pericardial tap to relieve tamponade and avoidance of unnecessary drugs.[3]

Since we are unable to treat the ruptured free wall, and this is invariably fatal, prophylaxis is the best management. This means judicious selection of those patients in whom anticoagulants are to be used and avoidance of drugs designed to raise the blood pressure unless actual shock endangers the life of the patient. A mere drop in blood pressure without shock should not seduce the physician into using drugs such as norepinephrine . . . particularly in the patient over 50 years of age, with previous hypertension and an anterior infarct for the first time.

References

1. Lange, H. F. and Aarseth, S.: The Influence of Anticoagulant Therapy on the Occurence of Cardiac Rupture and Hemopericardium Following Heart Infarction. II. A Controlled Study of a Selected Treated Group Based on 1,044 Autopsies, Am. Ht. J. 56:257-263, 1958.

2. Sigler, L. H.: Rupture of the Heart in Myocardial Infarction, Am. J. Cardiol. 5:14-23, 1960.

3. Lippshutz, E. J. and Malloney, M. C.: Hemopericardium and Cardiac Tamponades from Rupture of the Heart and Aorta, N. Y. St. Med. J. 23:3815-3817, 1958.

The Nervous Woman

Her impact on industry; Her devious delinquency in the home. Who is she, and what may be done about her?

• Her industriausness is not challenged, either by apportunities at hame, ar capriciaus loyalty to the industrial orb. Her desires are not met, in the voracity that "plethora of things" has engendered, in the adequacy of male dominance that St. Paul enjained when he said, "Wives, submit yourselves unta your husbands . . . for the husband is the head . . . "

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IT is audacious that a mere man presume to speak about mere woman, ever—but a nervous man is just plain foolhardy when he dares to talk about the nervous woman. George Eliot once said, "The happiest women, like the happiest nations, have no history." The reverse is true of the nervous woman, for she, like the uneasy nation, has manifold complaints and symptoms of unrest.

A man may get *in* trouble and seek aid. A woman *is* troubled, so for this reason so often she comes for help.

The psychobiologic unit of standard nomenclature gives us the psychiatric patterns and variants of mental and emotional illness. With these we are and should be more or less familiar. But, my purpose today is to side-step the areas of organic disease and psychotic behavior, and speak in the generalizations and simplifications that become the *modus operandi* of the general practitioner. For his success with nervous and emotional problems so often depends on how well he can translate phychiatric complexity into the everyday language and experience of his nervous patients.

The Term Described

Nervousness is a quality of behavior. It is a symptom-complex of underlying emotional mismanagement. It is the undesirable pattern of reaction and response to stimuli, unwelcome situations or conditions. Nervousness may be a compensatory mechanism revealing inadequacy, immaturity, or it may be evidence of the gap between desire and fulfillment; between ambition and attainment. Nervousness may also result from the static overflow of supercharged psychic energies that are poorly expended or utilized. This might be compared to the poor performance of the overtrained athlete, or to the rotting of surplus fruit when harvest hands are inadequate.

The nervous woman comes to us for treatment; for relief. She is agitated, apprehensive, tense, fearful and easily upset. She may laugh—or cry—or both. She may dwell with vague intensity upon visceral troubles, or she may deny altogether any element of illness, with the generality, "I'm just nervous."

All of us have seen her, and as I have implied, she is an unhappy woman. In our innermost thoughts we may agree with her. She is a *nervous* woman.

In Industry

For nearly twenty years I have spent part of each day in the first aid room of an industrial plant that employs a fair number of women. I have found there the same relative proportion of the problems of nervousness in relation to those we class as definitive or organic, requiring specific or routine treatment.

Expressed in another way, 75 per cent of the women who report have complaints that reflect anxiety or tension. These

have problems that arise from situations of stress. Acceptance is lacking, adaption is inadequate and interpersonal relationships are poorly managed.

In still another way, it has been shown that about 20 per cent of the women employees take up most of the time that comprises their utilization of first aid services.

These facts lend weight to the statement that "mental illness" is industry's greatest headache and health problem. A few of these women may undeniably have serious psychiatric illness, but the majority of them are simply called, "nervous".

What does this mean to industry? To the job?

During the second world war there was a tremendous increase in employment of women in positions of all types, many once held to be the exclusive domain of men. In most cases they did a magnificent job. Motivation was strong, the common cause was unifying, objectives were fundamental and satisfying.

From the experiences of those years industry learned much of the capacity and usefulness of women. And women, for their part, learned much of the increased opportunities for self-realization and greater emancipation from male dominance. There derived also greater awareness of competitive potential for economic ascendency which stimulated the realignment of relative and absolute values of man and woman in the home, in industry, in politics, and in practically all other relationships except the biological. I need not remind you, we see rebellions even in that area.

Industry also learned that in a variety of jobs, women could do certain types of work as well as, or even better than men, and for less pay. More women could be put to work in smaller space, at benches or on the assembly line, for men seemed to require more space and freedom to move about. Women seemed to withstand the monotony of repetitive jobs better and to seek promotion or change less aggressively.

However, since the war, even though the movement of women from the home to positions in industry and in the business and professional world has continued, with many the motivations and perspectives have reverted to those forces associated with immaturity and need for escape.

In short, industry finds itself with many who do not seek work for work's sake; who feel little or no loyalty to the company which employs them. These women are forced by circumstance to become gainfully employed: single women, divorced women, women with invalid husbands or those trapped by mitigating circumstance, whose preference would be to remain in the home. By contrast, and added to those ranks, are the women who could and should remain in the home, but who dislike housework, who are literally running away from those responsibilities, from dependency on male dominance, and from the loneliness and isolation that the home means to some.

In the industrial clinic, I am impressed by the number of nervous women who complain of intolerable situations in the home. Dominant parents or in-laws may create tensions; alcoholic or indolent husbands contribute to a feeling of necessity and insecurity. In this particular reference, may I add that a surreptitious inventory revealed that at least 14 per cent of the women in one industrial area had husbands who were alcoholic. This is far higher than the national average for the general adult population, and is certainly of interest sociologically.

All the foregoing factors are met in the general survey of possible etiological significance of background in the understanding of the nervous woman.

Foremen, supervisors, personnel directors and employers also have become acutely aware of the problems of the nervous woman reflected in absenteeism, unreliability, unpredictable behaviour, breakage or increased percentage of rejects. They have seen it revealed in the unrest that the nervous woman may create among her fellow-employees. She may cause more headaches to management than do roadblocks in technological problems.

In fairness, however, it must be said that the occasional nervous perfectionist may be driven to performance that far surpasses the average.

In the Home

In the home, away from the business and professional world, the nervous woman may not be so easily nor so frequently detected. In industry, the visits to the first aid room may be practically unlimited, while in private practice visits are limited by cost, by time and trouble making and meeting appointments, and the time and willingness of the doctor to devote himself to her problems.

Then too, while the fears, tensions and anxieties are the same in manifestations of instability, there are differences in behaviour patterns and nature of complaints. There may be neglect of the home, or perfectionism in its visible care. Children may be ignored, tolerated or smothered with an over-indulgence that bodes ill for their future. Escape may show itself in intense involvement in social competition, or in community service above and beyond individual capacity. Fatigue from emotional conflict, or boredom that results from inadequate resourcefulness, either or both, may contribute to the nervousness of the individual.

Contrast of Nervous Men with Women

Far be it from me to give to you, or to leave you with the impression that there are no nervous men. But by number they are far fewer than the number of nervous women who come to us for care. This disparity is more apparent than real, and a few brief reminders may account for this.

Women seem to come earlier for help than do men. This would appear true because men are less inclined to reveal their weaknesses by complaint, considering it unmanly. This is as true of organic disease as it is of nervous disorders. Man resorts more to rationalization, while woman looks for help. Man has too long held the traditional role of dominance and independence of action, while woman is more newly arrived at the degree of emancipation she may enjoy today, and has less inhibitions about making complaint, especially to a man physician. A man may unload his troubles on his neighbor, his barber or the service station attendant, knowing he does not need to accept their advice. But if he seeks his doctor, he feels ahead of time he is likely to have restriction of freedom, or at least an uncomfortable load of change or moderation suggested. The woman, on the other hand, seeks help from doctor, or minister, or lawyer, feeling in these professions the cloak of authority, and the need for dependency upon advice.

One last thought in this vein. Since men come at a much later period in their endurance of some nervous disorder, we may find their original emotional maladjustment and instability given the more acceptable and concrete designation of somatic disease such as peptic ulcer, colitis, asthma, coronary disease, and the like. Women, by contrast, hear more often the words, "Examination and tests show no evidence of disease or change." "I find that nothing is wrong, and you have no need to worry."

Women have the duty and responsibility of pregnancy and child-bearing, imposed upon them by biologic necessity. Most women accept this role gratefully and derive happiness from it. There are those, however, that resent this and spend their reproductive years consciously or subconsciously in fear of the phenomena of this biologic capacity. Menstruation intensifies anxiety, pregnancy is avoided if possible, or endured with concealed or manifest dread, and menopause causes myriads of ills known best to the gynecologist and to God. But the brunt is borne by the husband and the family doctor.

The Physician's Share in the Problem

Since the bulk of our women patients manifest nervousness in some form or degree, ours is the responsibility to assume a goodly part of their care and guidance. This we may do in several ways, or by a judicious mixture of all resources avail-

able to us, and within the capacity of the patient to explore and to share.

We can minimize or deny outright the reality and validity of their complaints. This course may help some; more often it hurts.

Tranquilizers and other alternative medication may be used, with no further effort at realistic evaluation of the problems involved, or we may attempt reassurance which we ourselves do not feel, thus transfer poorly.

Many of us listen with ears alone, but not with attitude, and advise or prescribe accordingly. This seldom helps much, for the nervous woman is keenly sensitive to the degree of honesty of our interest and concern. When our heart is not in the interview, neither is hers in the therapy.

The over-hearty dismissal of the reality and significance of her distress by the promise she will be all right, also misses the mark, and reveals the insincerity that failed to give the proper consideration that she feels is due her complaints.

We can, however, be honest with ourselves and her by use of several acceptable means of approach and therapy. This involves a genuine interest in her problems, and the acceptance of the reality of her symptoms as we accept her as a valid patient, worthy of our time and effort. A complete examination, carefully made, is as important as attention to her history. Direct or indirect questions for clarification or explanation prove our attention as her account unfolds. These basic good manners mark good doctor-patient relationships, and make for empathy. Just so, brusqueness, impatience or indifference on the part of the doctor surely dampen the revelation of significant facts.

If we fail to grasp the significance of some detail, it is well to admit it, and request retelling on her part, for this admission may encourage reappraisal on her part, and thus she may gain insight.

Simple instructions in the mechanism of functional disorder and the telling of similar experiences of others, may effect real reassurance and understanding.

Suggestions are always in order for simple guidance in the fundamentals of balanced living. Basically, these include *adequate rest*, for fatigue is a mortal enemy of woman; *daily outdoor exercise*, for both man and woman physically are animals, and activity is tonic; *balanced diet*, adequate for her specific needs, is so important. She may need help to see that psychic hunger relates often to quality and quantity of intake of food, or that anorexia may mean disinterest in life or usefulness as a weapon to exact interest and concern of others; *good elimination*, with stress on regularity, and its importance in maintenance of good health; and finally, *peace of mind;* with all the implications this suggestion carries.

Here is the ground-work prepared for future visits that you suggest and expect. Here is concrete promise of help, given with confidence and accepted to the same degree in which it is given.

These future visits will explore basic needs of the patient as a woman, and the basic demands her culture and her sex require of her. Real effort is to be made to relate her nervousness to her failure to satisfy those basic needs, as well as her responsibility to meet the demands made of her. The reality of her uniqueness in the world is brought to mind, and the satisfactions that may be derived from her role in the home or in the factory may be discussed. Appeal to her tolerance of the inadequacies of others is often necessary, and assurance that she can rise above the tyranny of trifles naturally follows. Candid and confident suggestion that her distresses will diminish helps raise in her a conviction that they will.

Brief positive interest in value of work, proper perspectives in sex life, the value of sublimination and diversion, will all conspire to restore some degree of self-confidence and self-respect.

These are some of the ingredients utilized to re-create *peace of mind*. Out of such discussions with the patient, adapting interpretation of her potential and evaluation of her importance as an individual to the specific needs of her emo-

tional life can do much towards her acceptance of herself, realization of her potential, and diminution of her tensions as their harrassing forces are directed into creative, outgoing channels.

The Positive Prescription

I would end this essay with a word about the power of the positive prescription (to borrow for a moment from Dr. Peale). Often our direction reads, "Take q.4.h. for nervousness"; when this suggestion might help, "Take q.4.h. for relaxation". "One as needed for pain", might offer: "One as needed for relief". Other samples in the same vein might be, "One teaspoonful before meals for spasm", change to: "One teaspoonful before meals to prevent spasm"; "One at mealtime for indigestion", change to: "One at mealtime to improve digestion". Thus, emphasis is placed on the situation we would achieve, rather than on the distress from which relief is sought.

The disarming effectiveness of suggestion is well known, and the power of confident persuasion towards better health, self-confidence in known abilities, acceptance of one's role in our society, faith in one's self and in the spiritual values as we interpret them can go far in bringing happiness to the individual, the better to endure stresses, and to get the best out of life.



Ninth Annual Meeting of the American Public Health Assn.

* * * Physicians remember infants of exceeding feebleness or suffering from long and wasting sickness, retaining life, even contrary to all expectation, yet now developed into robust young men, or healthy, strong and comely women.

It is impossible to believe that one-half the human race is born non-viable. If it were true, most appropriately this multitude of slain innocents might join in the tombstone soliloquy of the infant in the London cemetery, dead at one day old, "If so soon I am done for, I wonder what I was begun for."

New Orleans M. & S. J. 10:649 (March) 1882.

Severe Allergic Reaction After Ingestion Of Acetylsalicylic Acid Compounds

• The authors report a case of anaphylactic shock in an apparently nonatopic individual.

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E. CRANE, M. D.†
New Orleans

ALLERGIC reactions in atopic individuals after ingestion of compounds containing acetylsalicylic acid have been substantiated on numerous occasions. The incidence among such patients has been reported to range from 0.2 per cent to 10 per cent [1] and the severity of the reactions at times is well known. Several deaths from hypersensitivity to aspirin have been noted in the past.[2, 3] The most frequent reactions according to Matthews et al.[4] include the following:

1. Asthma
2. Urticaria
3. Angioneurotic edema
4. Other skin eruptions
5. Rhinitis
6. Gastrointestinal disturbances
7. Purpura.

In addition, several reports of cardiac abnormalities have appeared in the literature.[5]

It is the purpose of this paper to report a case of anaphylactic shock in an apparently non-atopic individual after ingestion of Bufferin® (acetylsalicylic acid 5 grains, aluminum glycinate, and magnesium carbonate) and Alka-Selzer® dissolved in water (sodium acetyl salicylate, calcium sodium phosphate, sodium bicarbonate, and sodium citrate).

Case Report

The patient, E. P., was a 15-year-old married white female who stated that she awoke on the morning of August 17, 1960, and noted a mild frontal headache.

About an hour later, one Bufferin tablet was taken. After obtaining no relief in twenty minutes, an Alka-Selzer tablet dissolved in water followed by a second Bufferin tablet in fifteen minutes were taken.

Approximately ten minutes later, she suddenly became very weak and dizzy. This was followed by syncope for an unknown length of time. Upon regaining consciousness, the patient noted generalized giant urticaria and intense pruritis. She also vomited once. Nothing had been taken orally except the tablets.

There was no past or family history of allergic disease and both compounds had been ingested by the patient on a few occasions in the past with no untoward effects.

Eighteen days prior to this episode she had delivered a normal male child and was placed on oral iron therapy probably on an empirical basis as the hematocrit after delivery was recorded at 40 per cent.

This substance had been taken until three days prior to the ingestion of the acetylsalicylic acid compounds. No other medications had been taken.

When seen in the Charity Hospital Admit Room the patient was in shock with a blood pressure of zero, pulse of 120 per minute, temperature of 100°F. and respiration of 22 per minute. Giant urticaria was noted over the entire body. Lesions were more prominent on the trunk. The remainder of the examination was nonrevealing.

After receiving 100 mgm. of hydrocortisone, 50 mgm. of diphenydramine hydrochloride and 30 mgm. mephentermine sulfate the blood pressure rose promptly to 120/80 and pulse slowed to 90 per minute. During the ensuing six hours the patient had three episodes manifest by slow development of urticaria over trunk and extremities progressing into giant urticarial lesions within fifteen to twenty minutes and controlled each time by subcutaneous epinephrine. During each episode her vital signs remained stable. By the following morning all urticaria had subsided

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and the patient was afebrile, only a fine reticular erythema of the skin remaining.

Laboratory data revealed an initial white blood cell count of 21,800 with 73 per cent polymorphonucleated neutrophils, 8 per cent eosinophils and 19 per cent lymphocytes. These values dropped to within normal limits in six days at which time the white cell count was 8,200 with 60 per cent polymorphonucleated neutrophils, 38 per cent lymphocytes and 2 per cent eosinophils. The hematocrit remained stable at 40 per cent. One plus albuminuria was noted on admission by the sulfosalicylic acid test, but this returned to normal one day later.

Values for fasting blood sugar, blood urea nitrogen, chlorides, carbon dioxide combining power and creatinine were normal. Electrocardiogram and chest film were also normal and one lupus erythematosus test was negative. Both passive transfer and reverse passive transfer test were done on the back of a nonallergic individual using 1:100 dilutions of the Bufferin, Alka-Selzer, plain aspirin and the oral iron preparation which the patient had taken, plus a saline control.

Reactions were observed at twenty minutes and twenty-four hours. After forty-eight hours, the sites were challenged with the respective drug, or patient's serum. The results noted 20 minutes later are illustrated in Charts 1 and 2.

An attempt was also made to demonstrate precipitins using the same four antigens and utilizing the agar diffusion technique. Dilutions of antigen up to 1:10,000 were employed along with a standard amount of the patient's serum. The tubes were observed daily for one month. No rings of precipitate occurred in any tubes or in the control tubes.

Discussion

It is of significance that this patient gave a negative past history and family history for allergic disease because reactions of this nature are very rare in nonatopic individuals.[4]

Symptoms in various forms of acetylsalicylic acid hypersensitivity usually appear within ten minutes to two hours. In our case the onset was fifteen minutes after ingesting a second Bufferin tablet, which conforms with the above. Although scratch and intradermal tests have been reported as positive in some instances of aspirin allergy,[6] it is generally known that they are of little significance in the diagnosis of drug allergy in general, are usually always negative in aspirin allergy and indeed may be dangerous.[7]

Precipitin tests using simple chemicals have also been unrewarding in the past [8, 9] as was our experience in this case. Because of negative results upon attempt to demonstrate reagin in drug allergy by others, we elected to perform the reverse passive transfer test as well as the standard Prausnitz-Küstner test, hoping that with the former method the drug would combine with tissue protein and produce a true antigen which would give a positive reaction upon retesting with the patient's serum.

The results which showed a +++ reaction in twenty minutes using both methods for the Bufferin compound and a + reaction to plain aspirin and Alka-Selzer with negative control were surprising. Possibly the strong reaction was due in some way to the specific presence of the aluminum glycinate and magnesium carbonate in the Bufferin compound, but this remains a matter of speculation. Thus, from the available data it cannot be said with certainty what the exact cause of the severe reaction was in this patient.

Summary

A case of anaphylactic shock following ingestion of Bufferin® and Alka-Selzer® compounds is reported. Both Prausnitz-Küstner and reverse passive transfer studies demonstrated a +++ reaction for Bufferin® and + reaction for Alka-Selzer® and plain aspirin with negative controls.

CHART 1
PASSIVE TRANSFER *

Bufferin	+++
Aspirin	+
Alka-Selzer	+
Iron preparation	—
Saline control	—

* Skin sensitized with .1 cc. of patient's serum and retested in 48 hours with 1:100 dilutions of antigen.

CHART 2
REVERSE PASSIVE TRANSFER *

Bufferin	+++
Aspirin	+
Alka-Selzer	+
Iron preparation	—
Saline control	—

* 1:100 dilutions of antigen injected initially and sites retested in 48 hours with patient's serum.

Precipitin tests using the agar diffusion technique were negative.

Although very rare, the severity of such reactions after ingestion of these compounds is emphasized. The incidence and most frequent types of reactions are listed.

References

1. Leeuwen, W. S. Van: Pathognomonic Significance of Hypersensitivity to Aspirin in Asthmatics, Munchen med. Wchnschr., 75:1588, 1928.
2. Gross, M. and Greenberg, L. A.: The Salicylates, New Haven, Hillhouse Press, 51-55 and 185, 1948.
3. Francis, N., Ghent, O. T., and Bullen, S. S.: Death from Ten Grains of Aspirin, J. Allergy, 6:504, 1935.
4. Matthews, K. P., Lovell, R. G. and Sheldon, J. M.: Problems of Aspirin Allergy with Report on Skin Testing with Salicylate Containing Human Sera, J. Lab. and Clin. Med., 36:416, 1950.
5. Rosenfield, I., Silverblatt, M. and Greshmon, A.: Allergic Shock in Humans; Report of Two Cases with EKG Findings, Am. Heart J., 3:53, 1957.
6. Gibson, C. D. Jr. and Tourson, I: G.: Acute Allergic Reaction to Aspirin, J.M.A. Georgia, 45:366, 1956.
7. Feinberg, S. M.: Allergy in Practice, 1944.
8. Carr, E. A. Jr.: Allergy to Drugs, New England J. Med., 245:892, 1951.
9. Salvaggio, J. and Gonzalez, F.: Severe Toxic Reactions Associated with Sulfamethoxpyridazine, Ann. Int. Med., 51:60, 1959.
10. Coca, A. F. and Grove, E. F.: Studies in Hypersensitiveness XIII., A Study of the Atopic Reagins, J. Immunol., 10:445, 1925.

Louisiana State Medical Society

Owing to the ubiquitous floods which have caused such desolation in the most important territory of the State; the officers of the Louisiana State Medical Society have deemed it proper to defer indefinitely the meeting which was to have been held on the 29th of March. * * * We trust that the time of the meeting has only been delayed for a short period, and that in the near future a meeting will be called which will be represented by every parish, and that its power as a State organization will be made known by the combined influence of the medical men throughout Louisiana.

New Orleans M. & S. J. 10:794 (April) 1882

Trichinosis in a Central Louisiana Community

• Report of an investigation on a recent outbreak in Louisiana.

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IN Louisiana reports of trichinosis in man have been rare. For the ten year period, 1951 through 1960, only 13 cases were reported to the Louisiana State Board of Health; however, an outbreak of 11 cases occurred in a Central Louisiana farming community in January, 1961.

In rural areas it is customary for many farmers to raise hogs for home slaughter. Some of the meat is often used in the preparation of smoked sausage, a process which is usually insufficiently controlled as to time and temperature, when done at home, to kill the trichina. Unfortunately, some people are unaware of the danger of eating these raw or insufficiently cooked products. Such was the case in the present outbreak.

On approximately January 1, 1961, a farmer near Alexandria, Louisiana slaughtered a 4 to 5 year old sow that had "lost all of its teeth and had been stiff gaited and sluggish" during the past year. Sausage made from the meat was smoked with green hickory wood a few days later. Between January 7 and 12, the farmer's 6 sons, 3 daughters, a daughter-in-law, and a neighbor ate a portion of the raw smoked sausage. One son became ill on January 10, and by January 27, all 11 of those who had eaten the raw sausage had become ill.

Case Reports

On February 2, two of the cases (E.R. and L.R.) were taken to see a family physician. The symptoms in these 2 patients and in 2 additional cases at home were described. They all gave history of ingestion of raw smoked sausage. Trichinosis was suspected and an intradermal test with trichinella antigen was applied to each of the two patients. Both were positive. Blood cell counts showed a 51 per cent eosinophilia in one and 48 per cent in the other. On the following day the 2 additional patients (S.R. and H.R.) were seen by the same physician. Trichinella skin tests were negative on these two; however, a portion of muscle biopsied from the gastrocnemius muscle of one (S.R.), on microscopic examination, showed the presence of living *Trichinella spiralis* larvae.

Meanwhile, 4 hospitalized cases were being studied by other physicians. Summaries of pertinent findings were abstracted from hospital records on these cases:

C. R., a 23 year old male, was admitted to the hospital on January 11. He had onset the previous day with marked nausea, vomiting and diarrhea. Four years ago he had a transection of the spinal cord at D-7. On April 14, 1960, a uretero-ileostomy was done, resulting in recurrent urinary infections. His temperature on admission was 102°F. and he was having chills. He had 6,900 leukocytes with 4 per cent eosinophiles, 3 per cent stab forms, 83 per cent segmented neutrophiles, and 10 per cent lymphocytes. He was treated with chloramphenicol, 1 gram every eight hours, and was discharged four days later.

On January 22, the patient returned to the hospital and stated that he had been well until the day before, when he developed a severe headache and felt as though he had fever. Periorbital edema and conjunctivitis were noted. He complained of dyspnea and nausea but no vomiting or diarrhea. His blood count showed 10,400 leukocytes per cubic millimeter with 19 per cent eosinophiles, 3 per cent stab forms, 66 per cent

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segmented neutrophiles, and 12 per cent lymphocytes. A specimen of feces was examined and was found positive for *Endomoeba histolytica* cyst. The patient was given treatment for amebiasis and discharged on January 24.

The patient returned two days later with fever, diarrhea, and weakness. He had an eosinophile count of 22 per cent. On February 1, a trichinella skin test was negative. His blood count, on February 2, showed 37 per cent eosinophiles. Section of gastrocnemius muscle biopsied, on February 3, showed encysted forms of *T. spiralis* larvae and a marked inflammatory reaction which included many eosinophiles. The bentonite flocculation test [1] for trichinosis was applied to serum specimens collected on February 1 and 5, and both were positive in titers of 1:10.

E.B., a 35 year old female, gave birth to a 9 pound baby boy at home on January 21, 1961, and later the same day went to the hospital. The following day she had a moderate diarrhea which subsided after treatment; however, she continued to have a low grade fever. Since there was no great discomfort or further signs of enteritis she was allowed to go home on January 25. After returning home, malaise continued and she had recurrent fever, particularly in the evenings.

On January 28, she went back to the hospital due to an increase in fever, swelling of her eye lids, pains in her arms and legs and general malaise. She appeared acutely ill and her temperature was recorded at 104.2°F. She had 6,800 leukocytes per cubic millimeter with 8 per cent eosinophiles, 76 per cent segmented neutrophiles, and 16 per cent lymphocytes. On February 2, her eosinophile count was 27 per cent. A trichinella skin test, February 4, was negative. The bentonite flocculation test for trichinosis on serum collected on February 1 was also negative.

C.L., a 23 year old male, was admitted to the hospital on January 25. He had onset of symptoms approximately one week prior to admission. The symptoms consisted of burning in the epigastrium, abdominal cramps, nausea with occasional vomiting, fever, chills, and generalized aching. At first he thought he had influenza and took medication at home. His symptoms subsided for two days; however, upon returning to work all of the symptoms returned.

At the time of admission he appeared acutely ill, weak and febrile. His temperature was 103.6°F. Periorbital edema and small petechial hemorrhages of the conjunctiva were noted. There was a slight injection of the nasopharynx. Bronchial breath sounds were moderately increased and there were a few scattered crepitant rales, particularly at both lung bases, posteriorly. The abdomen was slightly tender in the epigastric region.

His leukocyte count on admission was 9,700 per cubic millimeter with 3 per cent eosinophiles, 2 per cent stab forms, 70 per cent segmented neutrophiles, and 25 per cent lymphocytes. On February 2, his eosinophilia had increased to 56 per cent. On February 1, a trichinella skin test was negative. The bentonite flocculation test for trichinosis on serum collected on February 1 was positive in a titer of 1:20.

V.H., a 25 year old female, was admitted to the hospital on January 27, 1961. Her illness began four to five days prior to admission with abdominal cramps, diarrhea, fever and chills. She noticed swelling around her eyes and hands one day before admission. On the day of admission she had increased periorbital edema to the point that her eyes were almost closed. She had edema of the arms, hands, knees and legs. There was a slight conjunctival hemorrhage in the right eye. Her temperature was 104°F. Her abdomen was tender throughout and the bowel sounds were highly active.

On January 27, her leukocyte count showed 11,400 cells per cubic millimeter with 5 per cent eosinophiles, 7 per cent stab forms, 68 per cent segmented neutrophiles, and 10 per cent lymphocytes. On February 2, she had an eosinophilia of 54 per cent. A trichinella skin test performed on February 2, was negative. The bentonite flocculation test for trichinosis, applied to serum collected on February 6, was positive in a titer of 1:10.

Each of the 11 patients was interviewed by the investigators on February 8 and 9, 1961. Information was solicited on dates of ingestion of the infected sausage and dates of onset of symptoms, and a previously prepared check list of symptoms was completed. Table 1 represents a tabulation of the symptoms and incubation periods of each patient.

Only 2 patients (M.R.J. and H.R.) failed to report symptoms referable to the gastrointestinal tract. The other outstanding complaints were fever, weakness, headache, muscle pains, and periorbital, facial and dependent edema. The characteristic nature and severity of the symptoms in 9 of the 11 patients indicate a large dose of the infective organisms. Nine of the patients ingested some of the raw sausage only on one occasion, and some of the most severely affected individuals only tasted the sausage to check the seasoning. One of the two exceptions (C.R.) consumed a portion of the sausage while at home be-

TABLE 1
SYMPTOMS AND INCUBATION PERIODS

Symptoms	C.L.	V.H.	C.R.	I.R.	E.V.B.	S.R.	E.R.	L.R.	M.R.J.	H.R.	E.B.	Per Cent
Nausea	+	+	+		+			+			+	54.5
Vomiting	+	+	+		+							36.4
Abdominal Cramps	+	+	+	+	+	+	+	+			+	81.8
Diarrhea		+	+		+		+	+			+	54.5
Chills	+	+	+	+	+	+	+	+		+		81.8
Weakness	+	+	+	+	+	+	+	+		+	+	90.9
Headache	+	+	+	+	+	+	+	+	+		+	90.9
Anorexia		+	+	+		+	+				+	54.5
Chest Pain	+	+	+			+	+	+			+	63.6
Cough				+	+					+		27.3
Myalgia	+	+	+	+	+	+	+	+	+		+	90.9
Sore Throat		+			+	+	+		+		+	54.5
Pain on Mastication			+	+		+	+				+	45.5
Dyspnea			+	+							+	27.3
Periorbital Edema	+	+	+	+	+	+	+	+	+	+	+	100.0
Facial Edema	+	+	+	+	+	+	+	+			+	81.8
Dependent Edema	+	+	+	+	+	+	+				+	72.7
Conjunctivitis	+	+	+	+	+	+	+				+	72.7
Photophobia			+	+		+	+				+	45.5
Pain on Eye Movement	+		+		+		+	+		+	+	63.6
Rash and or Pruritis	+	+	+		+	+	+	+			+	72.7
Stiff Neck	+	+	+		+	+	+				+	63.6
Fever*	103.6	105	104	+	104	104	103.5	104	103	104	104.2	100.0
Incubation Period in Days	14	14	3	16	10	16	1	4	3	19	12	

* Maximum temperature recorded.

tween each of his 3 hospital admissions. This probably accounts for the recurrent gastrointestinal symptoms recorded on his hospital record.

The incubation periods ranged from one to nineteen days; however, the investigators are not convinced that all of the patients accurately remembered dates of ingestion of the sausage and the dates of onset of symptoms. A possible explanation for the short incubation periods of one day and three days in 2 of the cases (C.R. and E.R.) is the consumption by these patients, on January 5, of a portion of roasted pork meat from the same animal which was used in the preparation of the sausage. The mother of these 2 boys stated that the meat was not "well done around the bones" and that the two boys "chewed on the bones" on the night of January 5. Their incubation periods were calculated from the date of ingestion of the raw sausage one and three days later.

The most outstanding laboratory finding other than the identification of *T. spiralis* in the biopsied muscle tissues was a hypereosinophilia ranging from 27 to 56 per cent in 6 of the patients. (Blood counts were not done on the remaining 5 patients.) In 2 patients only differential counts were done and, of the remaining 4 on which total W.B.C. counts were made, only 2 (U.H. and C.R.) had a leukocytosis which exceeded 10,000 cells.

Trichinella skin tests were positive in only 2 of 8 patients tested. All of these tests were applied between the twenty-third and twenty-fifth day following ingestion of the infected sausage. The bentonite flocculation tests were positive in 3 out of 4 patients whose serum was tested. The sera were collected at approximately the same time that the skin tests were done (3-4 weeks after ingestion of the sausage).

A sample of the suspected sausage was obtained for laboratory examination. A small portion was squeezed between 2 glass slides and microscopic examination revealed the presence of the living *T. spiralis* larvae. Also, a portion was fixed in 10 per cent formalin, blocked in paraf-

fin, cut and stained with hemotoxylin and eosin and the encysted larvae were demonstrated.

All of the sausage meat came from one hog. This animal, with several others, had free range in the community. Their feed consisted primarily of acorns and raw garbage, supplemented at times with grain. It was reported that a neighbor bought swine at a public livestock auction and that some of them died from unknown causes. It was suspected that some of the dead animals were eaten by the hog which was used for the sausage meat. Rats had been prevalent but due to recent poisoning the number had been markedly reduced. Either the dead hogs or the garbage, or both, appeared to be the source of the *T. spiralis* infection in the slaughtered animal.

Discussion

Trichinosis became a reportable disease in Louisiana in 1943 and from this date through 1960 only 42 cases have been recorded. The greatest number of cases reported in one year during this period was 12 in 1946, and these were distributed among 10 different parishes. The highest number of cases traced to a single source during the same period was 4 in 1954.

Although the disease did not become reportable until 1943, the State Board of Health, in 1903, investigated an outbreak of trichinosis in Richland Parish affecting 18 persons with 4 deaths.[2] All of those affected had eaten smoked sausage made from the flesh of one hog. *T. spiralis* was identified in a sample of the sausage.

Hinman [3] in 1936, and Sawitz [4] in 1937, studied the incidence of trichinosis among bodies autopsied in New Orleans, Louisiana. The former found *T. spiralis* present in 7 (3.5 per cent) of 200 cases studied by the muscle digestion method and the latter 10 (5.0 per cent) of 200 cases utilizing both the digestion and pressed muscle methods of examination. This is considerably lower than the average of approximately 15 per cent found by investigators at various other localities in the United States.

Although trichinosis is not a reportable disease in many states, approximately 300 cases are reported annually to the United States Public Health Service. In all probability, a large number of cases are undiagnosed due to trichinosis having the clinical earmarks of many other diseases. The onset and progress of the disease is most likely to be atypical in mild cases.

Laboratory procedures useful in diagnosing trichinosis commonly fail to afford positive findings until rather late in the course of the disease. An eosinophilia, present at some time during the course in about 90 per cent of cases, appears about seven days after infection. This may be the first diagnostic clue. Intradermal tests with trichinella antigen usually become positive between the second and third week of infection. In the present outbreak 2 different commercially prepared antigens were used, 4 patients being tested with each. One product yielded the 2 positive reactions. It was reported that the other product was old and may possibly have lost its antigenicity, accounting for the negative results.

Various serologic tests, including the precipitin, flocculation, complement fixation, and more recently the latex-agglutination [5] test, have proven valuable in the diagnosis of trichinosis; however, these tests may not yield positive findings until the third or fourth week of infection. Muscle biopsy usually is not helpful until about the third week. A positive biopsy definitely establishes the diagnosis; however, a negative finding does not exclude trichinosis.

Summary

1. An investigation of 11 cases of trichinosis in a rural Louisiana Community is presented.

2. All of the patients had eaten raw smoked pork sausage made from the meat of a home slaughtered hog which had fed on raw garbage and dead hogs owned by a neighbor. A sample of the sausage contained the *T. spiralis* larvae.

3. The outstanding symptoms were

nausea, vomiting, abdominal cramps, diarrhea, fever, periorbital edema, muscular pain and weakness.

4. Blood cell counts done on 7 patients showed a marked eosinophilia. Muscle tissue biopsied from 2 patients contained the *T. spiralis* larvae. The results of trichinella skin tests and the bentonite flocculation tests are stated.

References

1. Bozicevich, M. A., and others: Rapid flocculation test for the diagnosis of trichinosis, Pub. Health Rep., 66:806, 1951.

2. Biennial Report, Louisiana State Board of Health, 1902-03, 73-74.

3. Hinman, E. H.: Trichinosis in Louisiana, New Orleans M. & S. Jour., 88:145, 1936.

4. Sawitz, W.: Are Post-Mortem Statistics on Trichinosis Valid for the Living Population?, Am. J. Pub. Health, 27:1023, 1937.

5. Iunella, B. A. and Redner, Wallace J.: Latex-Agglutination Serologic Test for Trichinosis, J.A.M.A., 171:885, 1959.

Training School of Nurses

So the school for training nurses is likely to go on and accomplish a good work, in spite of obstacles thrown in its way. A noble spirited citizen of the most noble of cities has made a generous donation in aid of the enterprise. While the money bestowed is an opportune and materially important assistance, the fact that the attention of the beneficent and humanitarian people, situate as remote from New Orleans as Boston, is awakened to a knowledge and sympathy with our efforts here should greatly encourage us and be accepted as a token of future success.

New Orleans M. & S. J. 10:959 (June) 1882.

Trichinosis--A Scientific Homespun Diagnosis

• Report of a Case Diagnosed by Patient.

ALBERT L. CULPEPPER, M. D.
Alexandria

ON the morning of February 2, 1961, I arrived a little late at my office to find a tall, gaunt old gentleman pacing the floor impatiently. He was from Effie, La. He wanted the doctor who had saved the life of his good neighbor. His two boys in the next room were sick "real sick, with fever and chills, loose bowels, and hurting all over". I quickly stated that we were having quite an epidemic of intestinal infections now and that a few days would probably see them improved. He replied that this was different, "lots different, and if someone would just listen" he thought he knew the answer. His two boys here and two more at home had been sick two or three weeks and—

"While lying up in bed studying his lessons, Shelton, he's in High School and Shelton is right bright, you know, he was studying Bology"—

"What?" I asked.

"Bology", impatiently, "and he says 'Pa, here it is right here what we have. If you eat the raw meat of a sick hog with the ring tail screw worms, they go from your belly to your lungs, then in your blood to your muscles and you get chills, fever, headaches, diarrhea, pains in your chest and back and especially in the legs—that's what we have.' Now what do you think, Doctor?"

"Well", I replied, "I think three things: first, that you and Shelton are stem-winders; second, that you should receive gold medals; and third, that you should give the annual oration at the Founder's Day Banquet."

"Yeh?", he said.

"Yeh." I said.

Fortunately, we had some fresh Trichinella antigen.[1] Skin tests gave immediate positive reactions. Blood smears revealed 50-55 per cent eosinophilia.

Choosing the sickest of the four boys, Shelton age 17, we biopsied the external group of the right gastrocnemius. On excising the fascia, the muscle fairly popped through. Ample sections were removed. Our technician [2] insisted on pressing some fresh muscle between slides for immediate microscopic study. She found the tissue alive with the larvae coiling and uncoiling. We were considerably excited over this and immediately took the slides and remaining tissue to the pathologist.[3]

We feel that Mr. R. and son, Shelton, made the correct diagnosis, and our alert technician confirmed it.

We immediately placed the boys on the proper treatment. All are now up and about, at work and at school, except Ezra who, being of a true scientific temperament and a little hard to convince, yes—ate some more raw sausage and is back in bed.

---

[1] Courtesy of Eli Lilly and Co., Indianapolis, Indiana.

[2] Mrs. Temple Voltz.

[3] Dr. Edward C. Uhrich, Pathologist and Director of the Laboratory, Baptist Hospital, Alexandria, La.

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Editorial

Community Health Services Directed By Non-Medical Agencies

Those who are in a position to observe, and whose habit is to reflect, can see the results of a continuous interplay of forces between the efforts of protective, conservative, organized medicine, on the one hand, and aggressive and infiltrative socialism, on the other. The trend which this uneasy contest has taken is well displayed in two articles by Dr. Ben Freedman.[1, 2]

The theses presented in these two papers are comprehensive, well supported, and carry a conviction that particularly in Louisiana, but also, throughout the nation as a whole, organized medicine is in great need of improving its tactics, if it is to maintain the rights, the privileges, and benefits of private practice.

In substance, these articles show that about the turn of the century the interests of the private practitioner, or family physician in this country, were more or less parallel to those of the public health departments, and that in the first half of the century additional forces came into play. One was the great increase in medical knowledge. The other was the conviction of organized medicine that State programs, such as were administered in various countries of the world, were not in the best interests of the public or good practice. The influence of organized medicine was then directed in such a manner as to restrict expansion of State Departments of Health.

Consequent upon this, Community Health programs, in the broad sense, began to be born. They took the form of voluntary health agencies, programs in various departments of government not connected with the boards of health, in areas where the supervision was not medical. In 1930, these changes were barely manifest. Thirty years later, a startling increase in agencies, programs, and enterprises had taken place. The actual operation of these had been splintered into all

phases of government and community life. Except in those operated by the Board of Health, the directing forces were not physicians. The upsurge in these programs took place in many instances without the support, and possibly in opposition to the influence and efforts of organized medicine. This carried with it a relative inhibition of the activities in the field of public health as directed in the health department.

The idea presented in the papers is that the great increase in number of governmental health programs was in response to an upsurge in community desire. The Journal, however, suggests a more cynical explanation. Those influences which took form in the first half of the current century in the promotion of socialism spread their doctrine by advancing a paternalistic concept of social structure, and therefore, of government. Avid among these, acting, accepting and developing these ideas were the group that might be called the social service lobby. In its various manifestation, it is responsible for far reaching changes in the average citizen's concept of his relation to society and the state. In the period of individualism, the citizen's thought was what could he do to support the state. In the new era of paternalism, the thought authoritatively presented is what can the state do to support the citizen?

In such a line of thought, each state agency in contact with its appropriate segment of the public embarks on a plan of added services delivered in a manner satisfactory to itself, and each bureaucrat is under the continual temptation of whether to build a larger or smaller empire.

As Louisiana is the most socialistic state in the Union, it would be expected that this process would have reached a considerable extent of expression here. During the year 1930, before the great expansion began, the State Board of Health had responsibilities in thirty-three health program categories. About ten other State agencies, including various special boards or commissions operated ten services of various types in six health program categories. In 1940, there had been considerable increase. In 1950, the State Board of Health had responsibilities in forty-eight health program categories, while thirty-four other state agencies, including special boards or commissions, operated well over one hundred services of various types in thirty-seven program categories. In such an expansion there was fragmentation of the type, character, and direction of the service and in most instances it was non-medically directed, although physicians may have been employed to do the bidding of their lay employers.

In the process, the State Board of Health, originally organized as a state agency to deal with community health matters, is rapidly losing its intended function, while other state agencies are taking on responsibilities in areas in which they were not intended to function, and for which they are not organized or competent to act.

Government medicine such as this tends to promote confusion, duplication, added expense, and inefficiency. It is advocated by Dr. Freedman that organized medicine take an aggressive attitude and physicians become pioneers in the studying, proposing, planning, and participating in the administration and operation of health programs needed by the community. The State Society should have a permanent committee charged with this responsibility and the medical profession should be represented in government to protect the interests of the community, while at the same time guiding the development and administration of community health programs in a direction satisfactory to the progressive evolution of the profession itself.

In furtherance of these ideas the House of Delegates in the meeting in May 1961, passed a resolution, the effect of which will be to establish a committee to study the problems of organization, administration, and all the other aspects of State government health services for the purpose of keeping the medical profession informed concerning these matters and for supplying pertinent and accurate data for

guiding the action of the Society.

The implication here for organized medicine is as it has been found in so many areas where the practice of medicine touches government. To maintain ourselves and to be allowed to retain the privilege to do private medicine, which is the only type of good medicine, the physician has to become a politician. He does not have to run for office, but he has to secure for himself, as an individual and for the Society as a whole, a firm place in all that pertains to political influence. The physician is not the only one who has to maintain himself in his chosen field of activity and also in the seats of political power.

1. Freedman, Ben: Organized Medicine and the Crisis in Community Health Programs, J. Louisiana State M. Soc. 112:231 (June) 1960.

2. Freedman, Ben: The Fragmentation of Community Health Services in Louisiana: The Responsibility of Organized Medicine, J. Louisiana State M. Soc. 113:264, (July) 1961.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

INTRODUCTION OF RESOLUTION, HOUSE AND HOUSE CONCURRENT

The following named members introduced the following entitled Resolution, House and House Concurrent:

House Resolution No. 9—

By Messrs. Jewell and Lewis:

A RESOLUTION

To express the appreciation of the House of Representatives of the Legislature of the State of Louisiana to the Louisiana State Medical Society, to the East Baton Rouge Parish Medical Society and to the members thereof for their furnishing and maintaining a first aid station in the State Capitol Building and for their staffing the first aid station during all meetings of either house of the Legislature of Louisiana.

WHEREAS, life and health are two of the greatest gifts which the Almighty has bestowed upon men, and

WHEREAS, the Medical Profession is one segment of our society into whose hands the preservation of these gifts has been placed as a sacred trust, and

WHEREAS, the demands of legislative sessions and the excessive fatigue and tensions created by them frequently have brought about sudden illness among the members, and

WHEREAS, following repeated occurrences in which members of this House and of the Legislature or others present in the legislative halls have required immediate medical attention, the Louisiana State Medical Society and the East Baton Rouge Parish Medical Society in 1959 unselfishly took upon themselves a project under which a First Aid Station was established and since has been maintained on the first floor of the State Capitol for the benefit of members of the Legislature and others who may find themselves in need of emergency medical assistance, and

WHEREAS, without charge to the members of this Honorable Body said First Aid Station was established and equipped with furniture, equipment and supplies initially loaned by various medical suppliers but purchased for the Station by the Louisiana State Medical Society, and

WHEREAS, said Louisiana State Medical Society has further evidenced its concern for the members of the Legislature and has given generous attention to their needs during busy times when they are away from their homes by furnishing without charge oxygen and other medical supplies and by engaging and paying for the services of a registered nurse who is kept in said Station at all times when the Legislature is in session, and

WHEREAS, the East Baton Rouge Parish Medical Society since 1959, has supervised and operated said First Aid Station and every member of said Society has unselfishly and at personal sacrifice served as a member of a roster from which physicians have been selected to be present in the First Aid Station or to be immediately available for service whenever the Legislature is in session, and

WHEREAS, the Members of the House of Representatives are fully cognizant of the gen-

erosity and sacrifice involved in the furnishing of these medical services, all without charge to those who receive them and at personal cost and sacrifice to the members of the medical association who give of their time in making themselves available, and

WHEREAS, the members of the House are deeply grateful to the East Baton Rouge Parish Medical Society and all others involved in this great public service which for several years has served not only for the relief of minor ailments but which in fact has on several occasions been of critical importance when the lack of immediate medical aid might have resulted in serious consequences and perhaps even the loss of life, and

WHEREAS, it is entirely fitting that the House of Representatives pause in its deliberations to give due recognition of the services thus so unselfishly rendered over a period of years for the benefit of its members and to express to those Societies and agencies which have contributed to this valuable effort the commendation and keen appreciation of this Honorable Body,

THEREFORE, BE IT RESOLVED by the House of Representatives of the Legislature of the State of Louisiana that the members of the House of Representatives do hereby individually and collectively commend and pay tribute to the members of the Louisiana State Medical Society for the part it has played in furnishing registered nurses, and in furnishing and equipping the First Aid Station for the Legislature, and to the East Baton Rouge Parish Medical Society for spear-heading the project by which the First Aid Station was begun for the benefit of the Legislature and for its continuing service to the Legislature in supervising the operation and maintenance of said First Aid Station, for their benefit and making available at all times during sessions of the Legislature medical personnel either actually in attendance in the Capitol or immediately available to care for emergency needs of members.

Be It Further Resolved that the members of this House do hereby express their sincere appreciation for the many services thus rendered, and

Be It Further Resolved that duly certified copies of this Resolution shall be transmitted to the President of the Louisiana State Medical Society and to the President of the East Baton Rouge Parish Medical Society, with the request that these officials shall make known to all others who have assisted in this work the gratitude of the members of the House of Representatives therefor.

Read in full.

Lies over under the rules.

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Jefferson	Third Thursday of every month	
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY ELECTS NEW OFFICERS 1961-1962

The twenty-fifth annual meeting of The New Orleans Graduate Medical Assembly will be held March 12-15, 1962, headquarters at The Roosevelt Hotel.

The following officers and members of the Executive Committee have been elected for this year:

Dr. Barrett Kennedy, President
Dr. Ralph M. Hartwell, President-elect
Dr. W. E. Kittredge, First Vice-President
Dr. John G. Menville, Second Vice-President
Dr. H. Reichard Kahle, Third Vice-President
Dr. Mannie D. Paine, Jr., Secretary

Dr. Samuel R. Staggers, Treasurer
Dr. Walter F. Becker, Director of Program
Dr. Gilbert C. Tomskey, Assistant Director of Program
Dr. William R. Arrowsmith, Assistant Director of Program

Members of the Executive Committee include Doctors Maurice E. St. Martin (retiring President), Richard L. Buck, Daniel C. Riordan, L. Sidney Charbonnet, Jr., and Jack E. Strange.

FORTHCOMING MEETINGS

The Council on Arteriosclerosis of the American Heart Association will hold its Annual Meeting on October 18-20 at the Hotel Balmoral, Bal Harbour, Miami Beach, Fla., immediately preceding the AHA's annual Scientific Sessions in the same city, October 20-22.

All interested physicians, whether or not they are members of the Council, are invited to attend the sessions. Further information on the Council meeting may be obtained from Dr. Jeremiah Stamler, Chicago Board of Health, 54 West Hubbard Street, Chicago 10, Ill., or from the American Heart Association, 44 East 23rd Street, New York 10, N. Y.

Tennessee Valley Medical Assembly, Read House, Chattanooga, Tennessee, September 25-26, 1961, Joseph W. Graves, M. D., 109 Medical Arts Building, Chattanooga, Tennessee, Chairman.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

Applications for certification in the American Board of Obstetrics and Gynecology, new and reopened, Part I, and requests for re-examination in Part II are now being accepted. All candidates are urged to make such application at the earliest possible date. Deadline date for receipt of applications is August 1, 1961. No applications can be accepted after that date.

Candidates are requested to write to the office of the Secretary for a current Bulletin if they have not done so in order that they might be well informed as to the present requirements. Application fee ($35.00), photographs, and lists of hospital admissions must accompany all applications.

After July 1, 1962, this Board will require a minimum of three (3) years of approved progressive Residency Training to fulfill the requirements for admission to examination. After the above date, training by Preceptorship will no longer be acceptable.

Diplomates of this Board are urged to notify the office of the Secretary, 2105 Adelbert Road, Cleveland 6, Ohio, as soon as possible of changes in address.

HEREDITY REPORTED AS FACTOR IN SPINAL AILMENT

Heredity has been reported for the first time as a definite factor in a relatively common type of spinal deformity.

A defect of closure in the spinal column (spinal bifida occulta) was found in two sons and a daughter of parents who both had the same ailment. The cases are described in the April 8 Journal of the American Medical Association.

In the children the bone defect was associated with a disorder of the nervous system. Stretching and deformity of the spinal cord had occurred as a result of a shortening of the thread-like connection (filum terminale) which anchors the spinal cord to the base of the spine.

Said Drs. J. Grafton Love, David D. Daly, and Lloyd E. Harris of the Mayo Clinic, Rochester, Minn.:

"It is our opinion that the occurrence of tight filum terminale in all three siblings of this family clearly indicates a gene-determined etiology and that this is the first reported instance of the syndrome as a hereditary disorder."

However, they added that "the precise mode of genetic transmission of this disorder is not clear."

The spinal column defect usually is not associated with neurological disorders, they said. However, when it is, symptoms include disturbances in gait, weakness and atrophy of the legs and deformities of the feet.

The spinal cord defect was successfully corrected in the three children by surgical procedures.

BOOK REVIEWS

Orthopaedic Appliances Atlas—Volume 2—*Artificial Limbs.* J. W. Edwards, Ann Arbor, Michigan, 1960. $10.00 Size 8½x11. pp. XXI and 499.

Volume 2 of *Orthopaedic Appliances Atlas* on Artificial Limbs follows Volume I on Braces, Splints and Shoe Alterations after eight years during which the Committee on Prostheses and Braces of the American Academy of Orthopaedic Surgeons labored faithfully to bring together and present the "technical procedures, prescription techniques, and training methods which have been developed through many years of prosthetics research."

During and after World War II, the necessity for improving amputation technics, manufacture of artificial limbs, and proper training of amputees in use of prosthetic appliances was recognized. Much time, effort, and money have since been devoted to well-directed research to make better artificial limbs and improve the lot of the amputee. The results of this stupendous effort on the part of many people and various agencies have been systematically collected, sifted, and compiled into this volume in a most creditable manner. The Committee of the Academy of Orthopaedic Surgeons, the Surgeon General of the Army, and the Department of Medicine and Surgery, Veterans Administration, deserve the gratitude of all directly or indirectly concerned with rehabilitation of amputees.

This volume properly contains little about surgical procedures for amputation, but presents in adequate detail and with numerous, well-selected illustrations, a comprehensive review of the entire field of prosthetics for amputees of all types. The reader is introduced to the subject by an interesting short chapter on Historical Development of Artificial Limbs. A glance at the titles of the thirteen succeeding chapters gives some idea of the subjects discussed and the comprehensive approach:

2. Upper-Extremity Components
3. The Construction and Fitting of Upper-Extremity Prostheses
4. Harness Patterns for Upper-Extremity Prostheses
5. Lower-Extremity Components
6. The Construction and Fitting of Lower-Extremity Prostheses
7. Physical Treatment and Training of Amputees
8. Anatomical and Physiological Considerations in the Clinical Application of Upper-Extremity Prosthetics
9. Anatomical and Physiological Considerations in the Clinical Application of Lower-Extremity Prosthetics
10. The Principles of Amputation Surgery
11. Prescription in the Prosthetics Clinic
12. Cineplasty
13. The Special Problems of the Juvenile Amputee
14. Operation of the Prosthetics Clinic

Each chapter contains a well-selected bibliography. Many of the numerous, pertinent illustrations are line drawings that are well adapted to showing the details of construction of joints and harness. The photographs are excellent.

This volume is a worthy successor to Volume I. Both are necessary reference books for orthopedic surgeons, residents training in orthopedic surgery, prosthetists and therapists who train cripples in proper use of their appliances. All contributors to these volumes are to be congratulated for their work, and the Committee to Study Braces and Prostheses of the American Academy of Orthopaedic Surgeons, with Rufus H. Alldredge as Chairman, should be especially commended for its long-continued help in developing these valuable additions to our literature on prosthetics.

GUY A. CALDWELL, M. D.

Blood Diseases of Infancy and Childhood; by Carl H. Smith, M. A., M. D., The C. V. Mosby Company—1960, 572 p., price $17.00.

In the present plethora of medical textbooks on the market there has been one conspicuous absence—a book concerned with hematologic disorders in children. Many symposia, monographs, and special issues have attempted to cover the field; this book is the first to define childhood hematology from origin to destruction.

Dr. Smith has attempted to discuss and define every entity related to the hematopoietic system in children and in so doing has caused the major weakness of the book. His knowledge and ability are well known to all in his field, and he has made some significant contributions. However, the field of hematology, even if confined to pediatrics alone is too vast for one man to cover. There are some subjects in the book that are discussed in detail while others, just as important, are often scanned. In addition, 523 pages is not enough space to adequately define, describe, and initiate diagnosis in a field so large.

The preceding paragraph should not detract from the fact that this book is a good general approach to "detection of common blood disorders"; it is that! It is well-written, with adequate bibliography and liberal reference to more recent advances; for common disorders, treatment is adequately discussed although it is dogmatic in some instances, with little recognization of other possible approaches.

In summary, this book has long been needed; once arrived, one is pleased to have it but a little displeased with some aspects. The possible solution may be a manual or short book on diagnosis and a comprehensive reference text for those that seek further advances.

WILLIAM G. THURMAN, M. D.

PUBLICATIONS RECEIVED

The C. V. Mosby Co., St. Louis: The Cardiac Arrythmias, by Brendan Phibbs, M. D., Heredity in Ophthalmology, by Jules Francois.

Charles C Thomas, Publisher, Springfield, Ill.: Myxedema, by Jerry K. Aikawa, M. D.

The Williams and Wilkins Co., Balt.: The Clinical Apprentice; A Handbook of Bedside Methods, by John M. Naish, M. D., and John Apley, M. D. (2nd edit.); The Treatment of Tropical Diseases, by W. H. Jopling, M.R.C.P. (Lond.)

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Each Percodan* Tablet contains 4.50 mg. dihydrohydroxycodeinone HCl, 0.38 mg. dihydrohydroxy-codeinone terephthalate (warning: may be habit-forming), 0.38 mg. homatropine terephthalate, 224 mg. acetylsalicylic acid, 160 mg. acetophenetidin, and 32 mg. caffeine.

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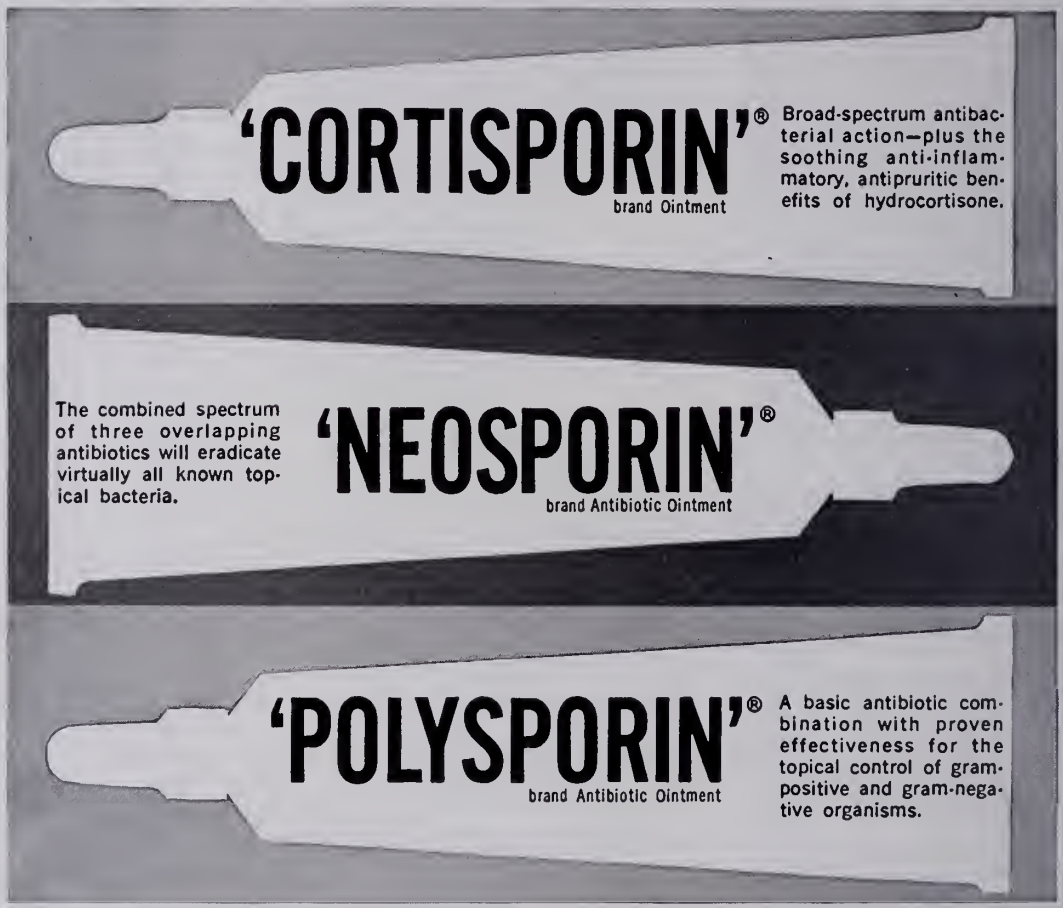
1. Blank, P., and Boas, H.: Improved analgesia for moderate pain, Ann. West. Med. & Surg. 6:376, 1952. 2. Bonica, J. J., et al.: The management of postpartum pain with dihydrohydroxycodeinone (Percodan): Evaluation with codeine and placebo, West. J. Surg. 65:84, 1957. 3. Cass, L. J., and Frederick, W. S.: A controlled study in pain relief, M. Times 84:1318, 1956. 4. Chasko, W. J.: Pain-free dental surgery: Postoperative extension of the pain-free state, J. District of Columbia Dent. Soc. 31:3, No. 5, 1956. 5. Cozen, L.: Office Orthopedics, ed. 2, Philadelphia, Lea & Febiger, 1953, pp. 120, 138, 145, 156, 234. 6. Nicolson, W. P., Jr., and Skandalakis, J. E.: Control of postoperative pain, J.M.A. Georgia 46:471, 1957. 7. Piper, C. E., and Nicklas, F. W.: Percodan for pain in industrial practice, Indust. Med. 23:510, 1954; abstracted, Clin. Med. 3:1008, 1956, Current M. Digest 22:135, No. 3, 1955.

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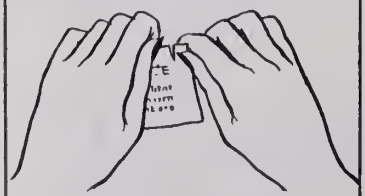
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References: 1. Garber, R. C.: J. Florida M. A. *45*:549 (Nov.) 1958. 2. Lipton, M. I.: Pennsylvania M. J. *64*:60 (Jan.) 1961. 3. Ayd, F. J., Jr.: Psychotropic Drugs, S. Garattini and V. Ghetti, eds., New York, Elsevier Publishing Co., 1957, p. 548. 4. McGettigan, D. L.: West. Med. *1*:8 (Jan.) 1960.

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(1) Danowski, T. S.: Diabetes Mellitus, Baltimore, Williams & Wilkins, 1957, p. 239. (2) McCune, W. G.: M. Clin. North America 44:1479, 1960. (3) Ackerman, R. F., et al.: Diabetes 7:398, 1958.

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To the physician it gives assurance of quality in the drugs he prescribes—assurance backed by the biggest asset of the maker, his reputation.

To the manufacturer it gives one of the greatest possible incentives to produce new and better curative agents.

To the pharmacist it gives preparations which he can dispense with confidence.

If trademarks are done away with, a whole new setup must be created:

1. An enormously expanded, expensive system of government quality control.

2. A new system of generic nomenclature which would magically turn out names not only rememberably simple, but also conforming to the principles of complex chemical terminology.

3. Something new to fill the gap left by the elimination of the trademark incentive to produce new and better drugs.

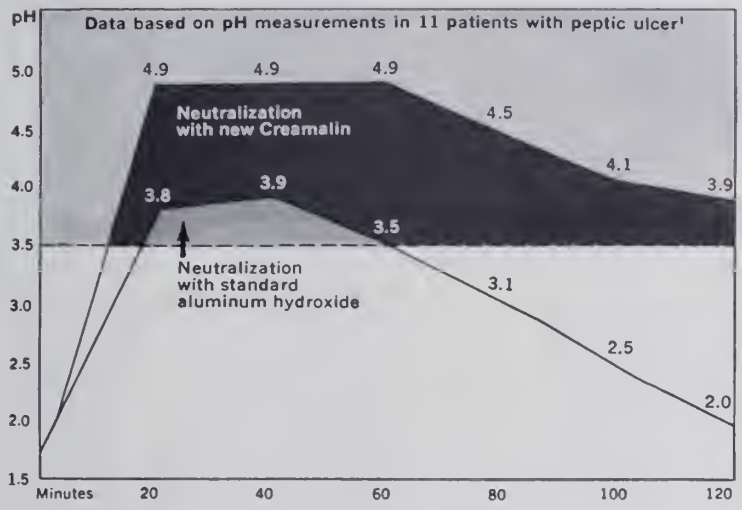
The American system has been pre-eminent in producing and distributing good medicines. Above all it has been successful in creating new advances in therapy. In a dubious effort to provide cheaper medicines by abolishing the trade names upon which the responsible makers stake their reputations, let us beware of sacrificing this success.

This message is brought to you on behalf of the producers of prescription drugs to help you answer your patients' questions on this current medical topic. For additional information, please write **Pharmaceutical Manufacturers Association,** *1411 K Street, N. W., Washington 5, D. C.*

At the site of peptic ulcer



Following determination of basal secretion, intragastric pH was continuously determined by means of frequent readings over a two-hour period.



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1. Data in the files of the Department of Medical Research, Winthrop Laboratories. 2. Hinkel, E. T., Jr.; Fisher, M. P., and Tainter, M. L.: J. Am. Pharm. A. (Scient. Ed.) 48:384, July, 1959.

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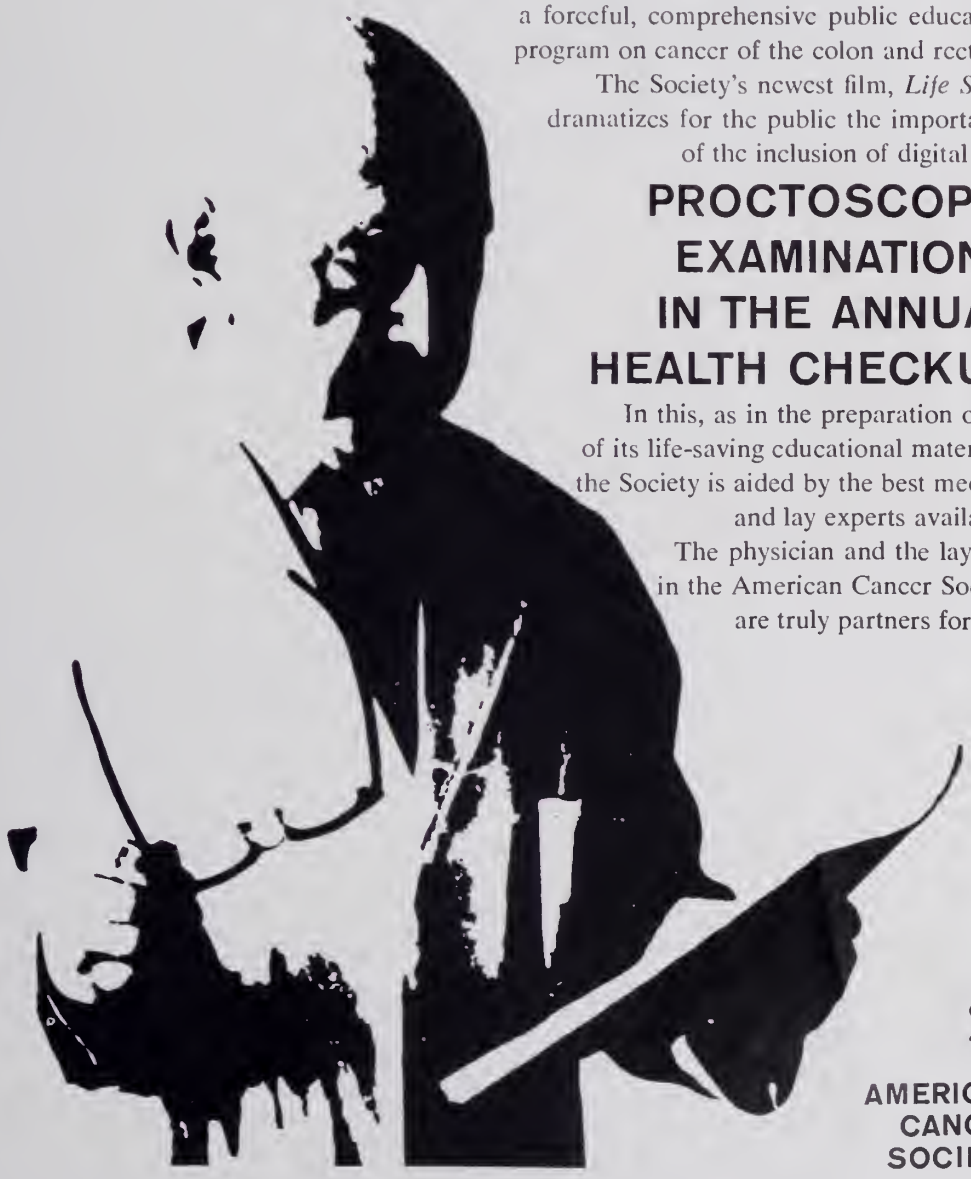
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key to improved therapeutic response

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increases deep peripheral circulation by direct action ...without troublesome side effects

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Contraindications—There are no known contraindications to oral administration of VASODĪLAN in recommended doses.

Cautions—VASODĪLAN should not be given immediately postpartum or in the presence of arterial bleeding. Parenteral administration is not recommended in the presence of hypotension or tachycardia. Intravenous administration is not recommended because of the increased likelihood of side effects.

Side effects—Few side effects occur when given in recommended doses. Occasional palpitation and dizziness can usually be controlled by dosage adjustment. Single intramuscular doses of 10 mg. or more may result in hypotension or tachycardia.

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References: (1) Lieberman, J. S.: GP *21*:133-143 (March) 1960. (2) DeWeese, J. A.: New England J. Med. *262*:1214-1217 (June 16) 1960. (3) Winsor, T.: Peripheral Vascular Diseases: An Objective Approach, Springfield, Illinois, Charles C Thomas, 1959, pp. 457-458. (4) Kaindl, F.; Samuels, S. S.; Selman, D., and Shaftel, H.: Angiology *10*:185-192 (Aug.) 1959. (5) Clarkson, I. S., and Le Pere, D. M.: Angiology *11*:190-192 (June) 1960. (6) Samuels, S. S., and Shaftel, H. E.: J.A.M.A. *17*:142-145 (Sept. 12) 1959.

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AUGUST, 1961

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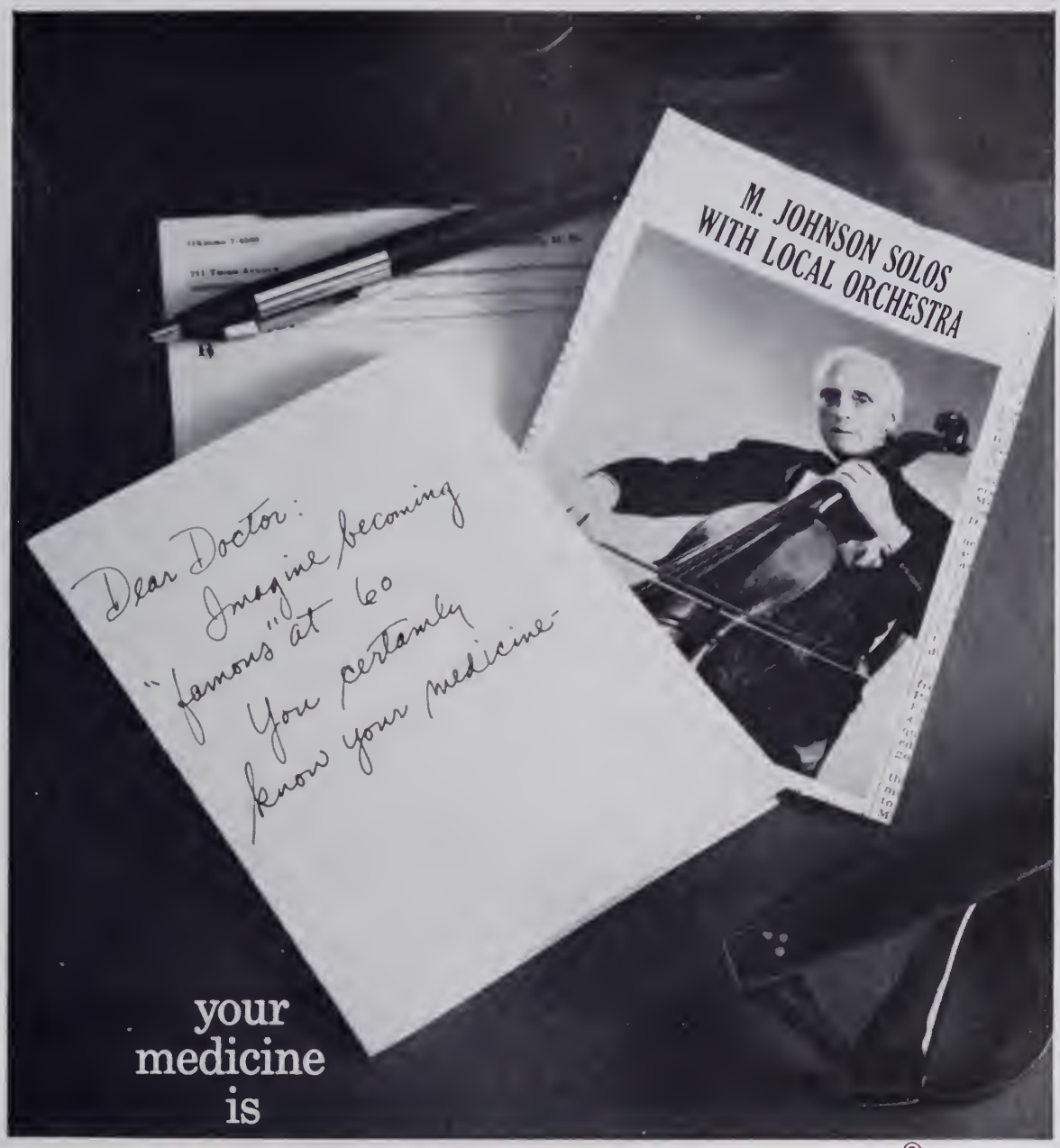
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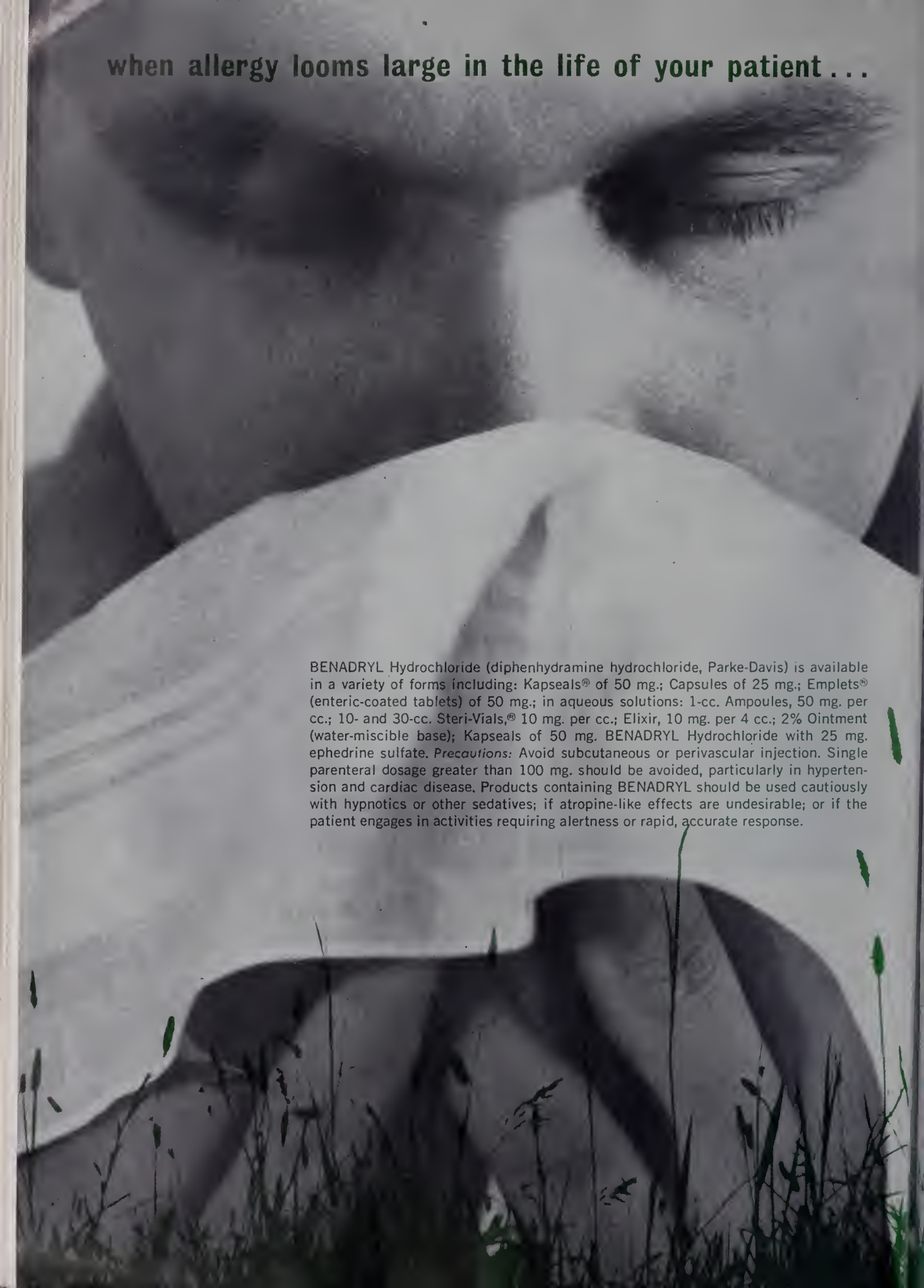
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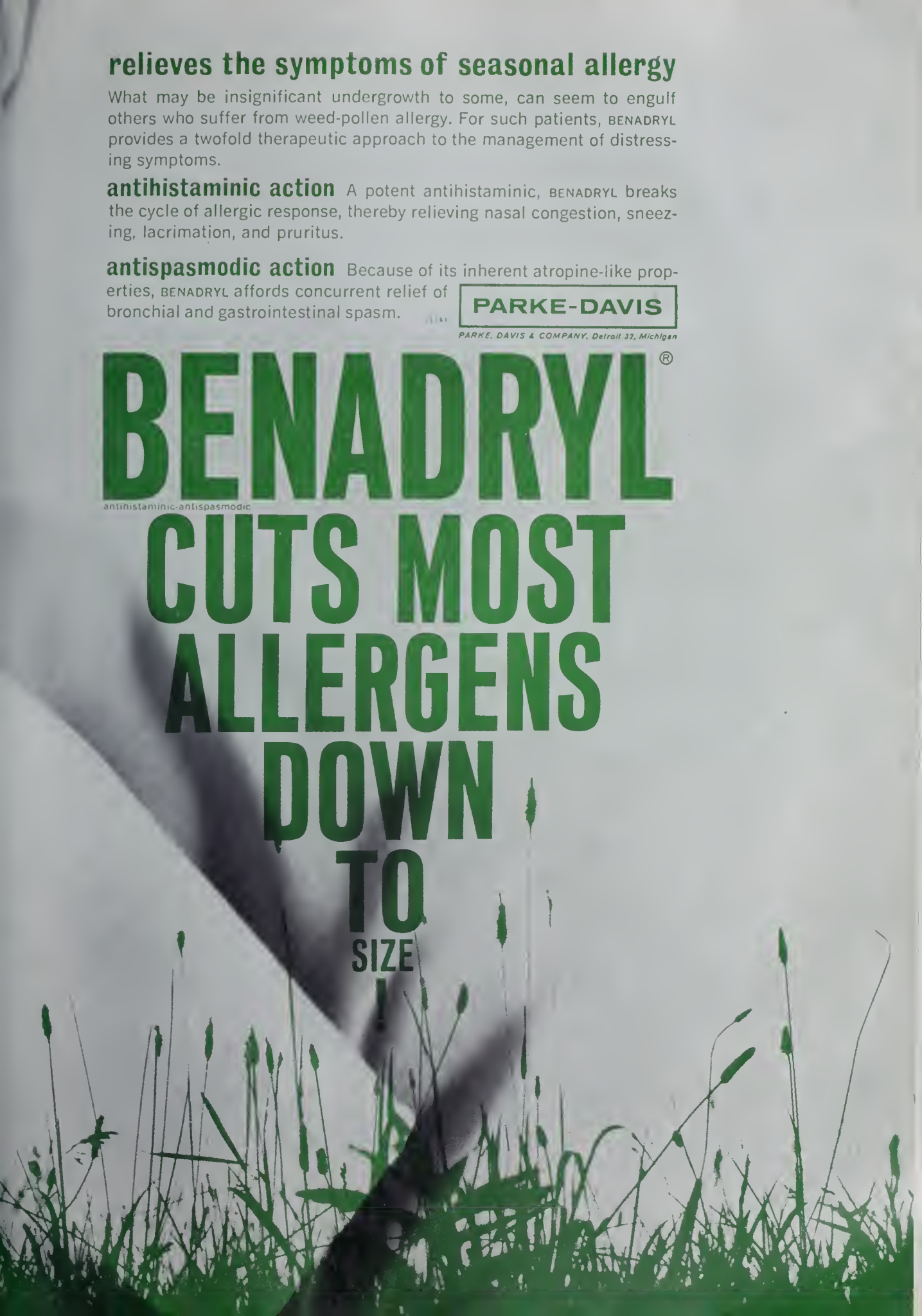
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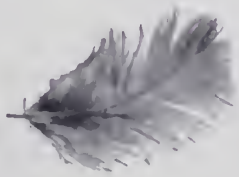
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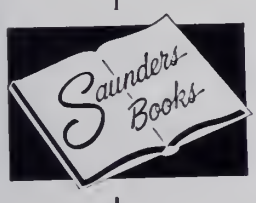
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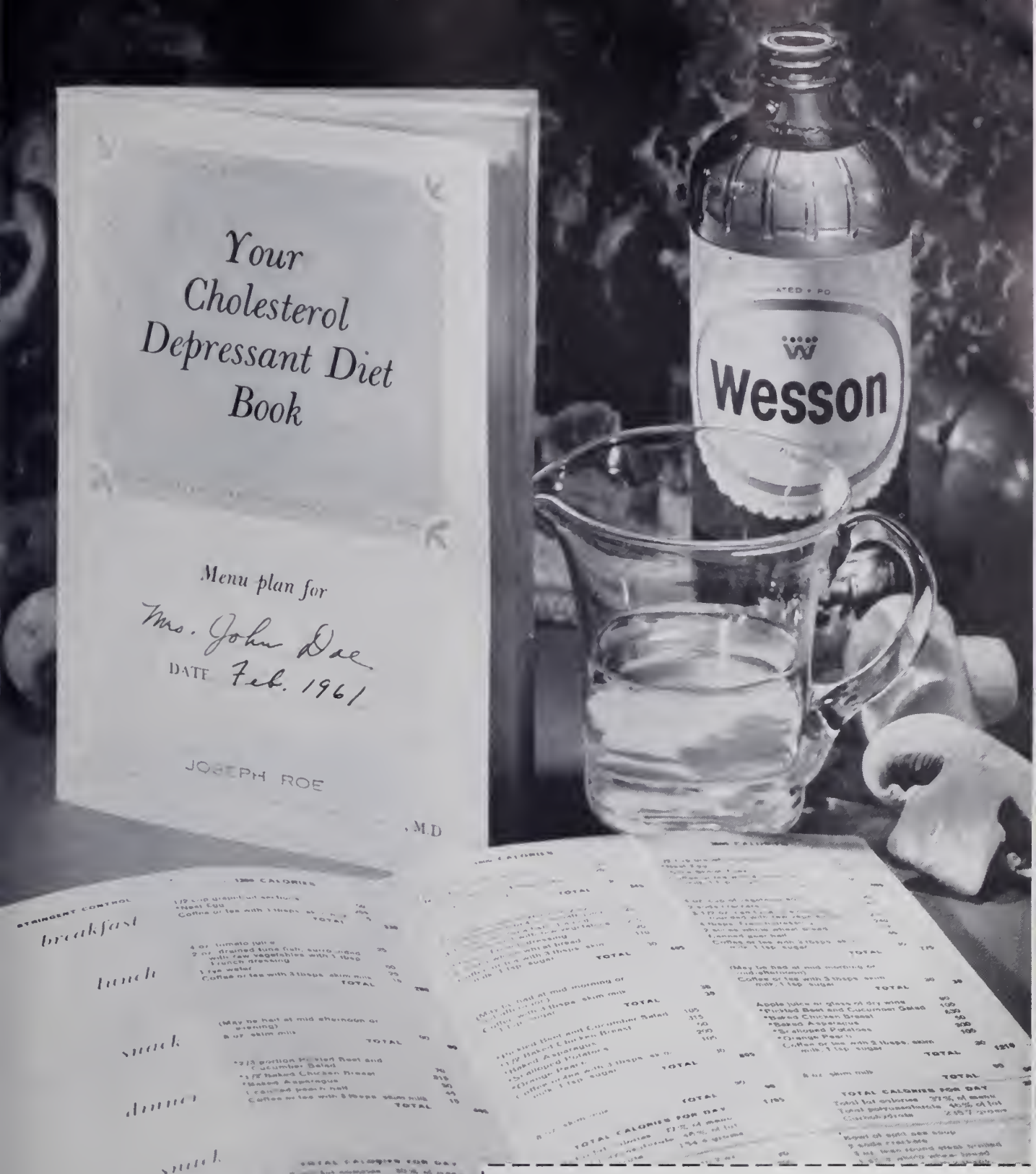
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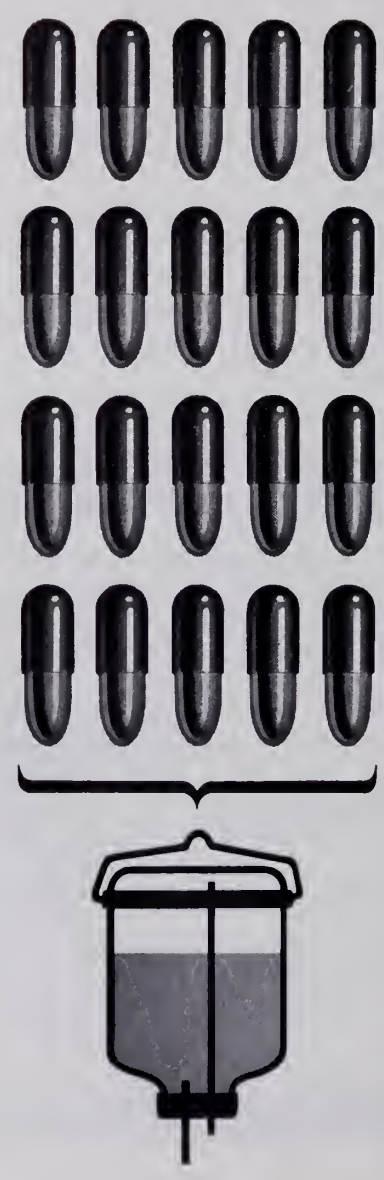
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Urologic Diagnosis in General Practice*

• In general practice, as well as in urology, the problems of diagnosis are greatly simplified by adherence to a routine plan of investigation. A complete urologic investigation has been reduced to nine successive steps, which, if carefully followed, will avoid the pitfalls and errors which can so easily occur in the management of urologic patients. The practical application of this plan is presented in detail.

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DOCTOR John Chalmers Da Costa once said, "Each one of us, however old, is still an undergraduate in the school of experience. When a man thinks he has graduated, he becomes a public menace".

The founders of the New Orleans Graduate Medical Assembly must have hearkened to his words. The excellent attendance at these meetings bespeaks the same spirit.

Diagnostic failures in urology, by both the specialist and the general practitioner, are almost always due to failure to follow an orderly plan of investigation. A complete urological investigation involves the carrying out in logical sequence of nine successive steps which do not permit short cuts or omissions. Any general practitioner can carry out these basic steps in his own office and can thereby make an accurate diagnosis in over ninety per cent of cases presenting symptoms referable to disease of the urogenital tract. By adhering to this specific routine the physician will avoid omitting any of the vital steps, and also avoid pitfalls and commission of errors that arise when they are not carried out in proper sequence.

The practical application of this plan is herewith presented in detail:

Outline of Routine Plan of Complete Urological Investigation

1. First Step. History—with emphasis on urological features. Symptomatology should be considered under three headings:

(a) General—such as chills, malaise, loss of weight, G. I. disturbance, rheumatic symptoms, etc.

(b) Urinary — frequency, burning, pain, polyuria, nocturia, urgency, pollakiuria, hematuria, pyuria, calcuria, dribbling, difficulty in starting stream, at-

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tacks of retention; diminution of force, forking of stream, incontinence, renal and ureteral colic.

(c) Sexual — impotence, premature ejaculation, painful ejaculation, chordee, hemospermia, diminished sexual power, incomplete erection, priapism, urethral discharge, a.m. drop, swelling, aching or pain in testicles, groins, perineum or rectum.

2. Second step. General physical examination.

Not always in uncomplicated venereal infections, but of great importance in other urological conditions.

3. Third Step. Kidney Palpation.

Fullness in loin or costovertebral angle.

Murphy's maneuver to elicit kidney tenderness.

1st, 2nd, 3rd degree mobility.

4. Fourth Step. Examination of External Genitalia.

(a) Anomalies

(b) Urethral meatus

(c) Penis (prepuce, glans, shaft)

(d) Venereal infections (discharge, ulcers) (if discharge: methylene blue stain to rule out G. C.)

(e) Scrotal contents

(f) Spermatic cord

5. Fifth Step. Examination of the Urine.

(a) Two glass test—(roughly differentiates lower and upper tract disease).

(b) Routine analysis of second glass:

1. Albumin
2. Sugar
3. Specific gravity
4. Reaction
5. Microscopic examination of sediment: pus cells, red blood cells, organisms, casts, crystals, epithelial cells.
6. Urine culture, Gram stain, acid fast stain, guinea pig inoculation, etc. as indicated.

6. Sixth Step. Rectal Examination.

(a) Sphincter tonus, fissures, hemorrhoids, etc.

(b) Palpation of prostate and seminal vesicles. Note size, shape, consistency, tenderness, notch, median furrow, and lateral sulci.

(c) Stripping of vesicles and massaging of prostate with microscopic examination of secretion for pus cells, lecithin bodies, and motile sperm.

7. Seventh Step. Total Renal Function.

(a) Phenolsulphonephthalein output —1 hr. I.V.

(b) Blood chemistry when indicated.

8. Eighth Step. Roentgenography.

Plain plates, of kidneys, ureters and bladder in all cases with symptoms pointing to upper tract involvement, and in all cases of suspected malignancy of the prostate for evidence of metastasis to pelvic bones and lumbar vertebra. I.V. urography when indicated.

9. Ninth Step. Cystoscopy.

(a) Endoscopy or urethroscopy.

(b) Cystourethroscopy. Residual urine determination.

(c) Ureteral catheterization.

(d) Separate urine collection and studies:

1. Microscopic examination.
2. Cultures. Sensitivity Tests.
3. Acid fast stains and guinea pig inoculation.

(e) Differential renal function (phthalein test).

(f) Cysto-uretero-pyelography.

First Step. The History

To stress the basic importance of a careful history is superfluous because it is fundamental in all medical school teaching.

The occurrence of actual chills must be differentiated from chilly sensations. Whenever fever occurs as a result of disease in the urogenital tract, whether or not accompanied by true chills, look for its source in the kidney, prostate or epididymis. Cystitis alone does not cause fever.

It is important to realize and evaluate the role of gastrointestinal symptoms in diseases of the urinary tract. Their association is common as a matter of reflex disturbance or toxic manifestation. Uremia may produce anorexia and nausea.

Often gastrointestinal symptoms occur without any symptoms referable to the urinary tract. A personal case suffered for four years from attacks of nausea, vomiting and ileus before it was discovered that she harbored a small calculus in her left renal pelvis which caused periodic obstruction.

Careful inquiry into urinary symptoms is of vital importance. The normal individual should not have to get up at night to void unless from excessive fluid intake during the evening. For the sake of ready reference it is convenient to denote the number of times a patient voids during the night (nocturia) and day (diuria) by the symbols

$$\frac{\text{N-0-1}}{\text{D-3-4,}}$$

this being the norm. Nocturia should be noted particularly since it is usually the first symptom to occur in prostatism (prostatic obstruction).

A mistake frequently made is to treat the symptom "frequency" as evidence of simple cystitis. A basic law in urology is that no patient with frequency should be treated with urinary antiseptics for more than a week without the benefit of thorough urological investigation. One patient of this type, whom I eventually saw, had been treated symptomatically in this fashion for a year and a half without improvement. A thorough urological study then revealed far advanced tuberculosis of one kidney, a contracted tuberculous bladder, and hydronephrosis of the opposite kidney due to intramural constriction of the ureter.

Hematuria is a most important symptom too often neglected, particularly if transitory. Painless hematuria is of far greater import than painful hematuria. The latter, usually initial or terminal with dysuria may indicate only an acute cystitis or posterior urethritis, whereas painless hematuria is often the only symptom of a malignant growth some where in the urinary tract. The treacherous nature of transitory or intermittent hematuria must be recognized, since tumors will sometimes bleed only once and not again for a year or more. By that time they may be incurable.

Second Step. General Physical Examination

A complete physical examination, as medical students are taught to do, is essential in all urological cases except the obviously local conditions such as venereal infections and minor local conditions involving the gentalia. In surgical cases a complete physical examination assumes more importance in order to discover systematic evidence of tuberculosis, malignancy, and other conditions which might originate in the urogenital organs, or involve them secondarily. Many urological patients, particularly prostatics, are geriatric problems as well, so that evaluation of cardiovascular status is important. Neurological evaluation is sometimes very important. Occasionally the first symptoms of neurological disease are those of a neurogenic bladder. In one patient whose initial symptom was bed-wetting (enuresis) the cause was found to be C S lues.

Third Step. Kidney Palpation

Special attention is given to kidney palpation. Tenderness or fullness in the loin or costovertebral area may be detected. Murphy's maneuver to elicit kidney tenderness is useful. This consists in placing the palm of the hand over each kidney area posteriorly and giving it a thump with the fist of the other hand. In acute kidney conditions the response of the patient is dramatic, but it is well to recognize its limitations. A kidney may be completely destroyed and devoid of all function without localizing signs or symptoms. Even with acute pyelonephritis and high fever there may be no kidney pain or tenderness.

One cannot be too careful in assessing pain or tenderness in the kidney region. Pains in the back, flank or loin are often difficult to diagnose. The prodromal stage of herpes zoster can be misleading, as well as radiculitis and orthopedic conditions. The operation of nephropexy for nephro-

ptosis has acquired a bad name because too often it has been done for movable kidneys without relief of symptoms. It should be embarrassing for the surgeon to perform a nehpropexy and then have the patient return later with the same pain in the back.

Fourth Step. Examination of External Genitalia

Errors in diagnosis in organs so exposed and accessible as the male external genitalia would seem to offer little difficulty, yet there are many pitfalls. Care, especially in infants, should be taken to rule out congenital stricture or stenosis of the urethral meatus. Unrecognized, this can lead to severe damage in a few years through back pressure to the whole urinary tract.

Do not accept the patient's statement as to the presence or absence of urethral discharge. Carefully strip the urethra and note if any is present. If pus cells are found a stained smear should be examined and culture made when indicated. A simple methylene blue stain and microscopic examination with oil immersion lens is ordinarily sufficient to identify the gonococcus. Trichomonas organisms can be seen under low power in a wet smear using normal saline.

All types of ulceration occur about the genitals, and they should all be considered luetic until proved otherwise. Syphilis is a great imitator and often manifests itself in bizarre ways quite different from the typical Hunterian chancre. Skin rashes peculiar to the genitalia are often puzzling and their correct diagnosis may demand the help of the dermatologist. In a recent case seen by the author the patient had a persistent rash involving his scrotum which did not disappear with ordinary medication. On referral to a dermatologist it was found to be secondary lues. The patient was a homosexual who had the primary lesion on his anus.

The scrotal contents should be individually isolated and carefully examined. Too many errors are made in identifying the painless swelling of the testicle which turns out to be a malignant tumor. One reason, perhaps, is that they occur in young men usually between 20 and 40 years of age. Their extreme degree of malignancy makes early diagnosis most important. Recently, my resident in routinely checking a patient found a small area of induration in one testicle which had not been noticed by the patient. Exploratory operation revealed a seminoma. Orchiectomy was done with a good prognosis because of early recognition. Tumors usually, but not always, cannot be transilluminated, while the opposite is true for hydroceles and spermatoceles. While malignancies usually arise in the testis, in the exceptional case they may arise in the epididymis or spermatic cord. Inflammatory conditions may or may not be painful, and, if tuberculous, may not subside. A useful urological axiom is: if a scrotal mass does not subside spontaneously within a period of two to four weeks it should be explored. In other words, *in case of doubt, operate.* Torsion of the testicle occurs in the very young, and should be promptly differentiated from acute epididymitis or orchitis, because only prompt surgical intervention will save the testicle. In the female a vaginal and pelvic examination should be included at this stage.

Fifth Step. Examination of the Urine

In my opinion, it is a grievous error for any doctor to send a urine specimen to a laboratory for routine analysis instead of doing it himself. Conical sedimentation glasses, which can be obtained in most any liquor store as beer glasses for about 35 cents a piece, should be an integral part of every general practitioner's office set-up.

The patient should be instructed to void in the two glasses. This is a simple and useful test which roughly differentiates *upper* and *lower* urinary tract disease For example, if the first glass is cloudy with pus cells or other elements, and the second is clear, it is probable that one is dealing with lower tract disease. As a rule, the second glass is used for routine analysis because it will be uncontaminated

by lower tract elements. The same holds true for the female. She may void in two emesis basins, or at the time of examination a direct catheterized specimen may be obtained. The urologist frequently has patients referred to him for pyuria which turns out to be the result of vaginal contamination.

Sensitive paper tests are now available, such as albustix, combistix, testape and nitrazene paper which can be performed in less than a minute. The advantage of "on the spot" urine analysis is shown in the determination of pH. The lab report is worthless because the urine is not tested immediately and in a very short time the hydrogen ion concentration changes to the alkaline side. Examination of the centrifuged urine sediment in the microscope should be done by the physician in his office. He can readily determine the presence or absence of the usual elements, and if desired, make methylene blue or Gram stains for organisms and cellular structures. It is a surprising fact that tumor cells may be often identified, or at least suspected, by simple methylene blue stain and study of cell morphology.

After the physician has carried out his own urine studies he may then see fit to send the sterile specimens to the laboratory for more detailed studies, such as special stains, cultures, and sensitivity tests. The specimen may be collected from the patient from midstream voiding, or aseptic catheterization, in a sterile bottle or test tube and taken immediately to the laboratory.

It is important for the physician to remember that normal urine does not rule out urinary tract disease. A great variety of conditions may exist with normal urine, e.g., malignancies, hydronephrosis, strictures, trigonitis, polyps, Hunner ulcer or interstitial cystitis, and bladder neck obstructions such as benign prostatic hypertrophy, median bar and neurogenic bladder. The finding of bacteriuria is always important because the normal kidney does not excrete bacteria. An old burnt out pyelonephritis may exist with little or no pyuria but bacteria will usually be found in the urine. Sterile pyuria should make one suspicious of tuberculosis.

Sixth Step. Rectal Examination

There is an old but true saying that many a diagnosis has been missed because the physician failed to stick his finger in the rectum. When done, the examination is too often cursory and unsatisfactory because of failure to note the condition of the anus, the tone of the sphincter and finally the condition of the pelvis itself before examination of the internal genital apparatus. I recently asked one of my residents to do a rectal palpation. On completion of his examination he told me correctly of the findings in the prostate and seminal vesicles, but he had entirely missed feeling a readily palpable carcinoma of the rectum above this level. I am sure he will not in the future make a similar mistake.

A certain amount of experience is necesary in order to recognize enlargement of the prostate and, especially, malignancy. In many cases the presence of cancer is equivocal or unsuspected so that one cannot be too careful in evaluating this condition, particularly since it is so frequent in men past fifty years of age and increases with each decade thereafter. One must depend in questionable cases on open or needle biopsy for diagnosis.

It is well to remember, too, that the prostate may feel normal in size, shape and consistency on rectal palpation and yet may be the site of middle lobe hypertrophy, median bar formation, or chronic prostatitis. Too often we find the physician reporting the prostate normal on rectal palpation without any attempt having been made to massage the gland and strip the seminal vesicles for secretion to be examined under the microscope.

Chronic prostatitis is often a silent disease existing as a latent focus of infection which can give rise to a variety of symptoms both local and referred. I feel sure that many transurethral resections are being done in certain sections of this country that could be much better managed by some judicious prostatic massage treat-

ments, perhaps supplemented in certain cases by dilatation with sounds and an occasional installation of weak silver nitrate.

Prostatic massage requires a certain training and technic in order to obtain secretion easily without trauma, something akin to learning how to milk a cow. The prostate must not be rubbed. The secretion is obtained by a rolling motion of the palmar surface of the index finger from the sides toward the middle. This is followed by stripping from above downwards of the seminal vesicles. It is of course essential that the patient void prior to massage in order that the secretion will not be contaminated by purulent discharge in the urethra.

Following these examinations one can now catheterize the patient for the determination of residual urine, if bladder neck obstruction is suspected or must be ruled out. Catheterization can be safely done if ordinary aseptic precautions are observed with avoidance of trauma.

Seventh Step. Total Renal Function

Completion of the sixth step ends the investigation of the lower tract and further steps may not need to be carried out if the diagnosis has now been made and the disease is limited to this region. However, many conditions exist which are combined system (upper and lower tract) disease so that a complete urological investigation is usually indicated, not only for the safety of the patient but also as a safeguard for the physician in order that he may not get caught in some unsuspected omission.

Most urological studies should be *complete*, and by a "*complete urological investigation*" we mean all nine steps. For example, when completion of the sixth step shows that we are dealing with a benign hypertrophy of the prostate, is it necessary to go further with our investigations? The answer is "yes", because upper and lower urinary tract diseases are so closely related, and one rarely exists without involvement of the other. We must know the status of the renal function in prostatic obstruction because of possible damage to the kidneys from back pressure. In addition, roentgenological and cystoscopic examination should usually be done in order not to overlook some silent coincidental lesion in the upper tract of serious portent.

The seventh step, which is carried out as an introduction to the upper urinary tract, is the determination of *total renal function*. For practical purposes the PSP test is of the greatest value, and is easily carried out in any general practitioner's office. It consists simply of the intravenous injection of 1 cc. of phenolsulphonephthalein (PSP) and collecting the urine one hour later. The specimen is alkalinized with a few drops of sodium hydroxide, 15 per cent solution, and read with a standard Dunning colorimeter. The normal output for one hour is approximately 60 per cent. Blood chemistry determinations may be indicated for supplementary information, but it must be remembered that the PSP test is a far more sensitive indicator of function. The blood chemistry in renal impairment ordinarily shows no elevation until the PSP output drops to 30 per cent or less.

Eighth Step. Roentgenography

Although a plain scout film (KUB) may be taken at an earlier stage, it is usually advisable to defer intravenous urography until after the determination of renal function. Two pitfalls are thus avoided: If renal function is poor, intravenous urography will be time and money wasted because the urinary tract will not visualize, and furthermore the dangers of toxic reaction inherent in this procedure are magnified by the impairment of function.

Ninth Step. (Instrumental) Cystoscopy

The ninth and final step in a complete urological investigation done in an orderly manner is the instrumental examination as outlined. This is where I want to emphasize an important point with respect to pitfalls and errors in urologic diagnosis. Too often, we see a patient being subjected to a cystoscopy before

the crucial preliminary eight steps have been carried out. This disregard for orderly investigation may get the physician into some very unenviable situations. In urology there are no diagnostic short cuts, and one cannot jump at conclusions in the study of urologic patients without getting into dilemmas which may prove embarrassing to the doctor and damaging to the patient. Do not undertake the final step (No. 9) without giving due consideration to the preliminary eight steps. The ninth step, which includes cystourethroscopy, supplemented by ureteral catheterization and retrograde pyelography, is indicated whenever symptoms and findings involving the urinary tract are not explained by non-instrumental study.

We are proud of the fact that in the field of urology we have a highly developed instrumental armamentarium which permits precision in both diagnosis and treatment to a very high degree. Let us develop the necessary skill and judgment to enable us to use these instruments with wisdom and discretion.

The Influence of Inundation on Health

Stanford E. Chaille, M. D.

1881—Dr. Joseph Holt, Sanitary Inspector, First District, reported * * * as follows: "The signal event of the year was the great overflow from the Lake of a large area * * * I carefully inspected the ground, and was especially struck with the fact that the heretofore dirty backyards, streets, and even houses, had the appearance of having enjoyed a thorough washing out, and I saw a dozen dead animals and heard of a man who had seen a dead fish. The event of the summer would seem to suggest an overflow as a providential sanitary measure."

Newer Diuretic Evaluations for Obstetric And Gynecologic Conditions*

• A classification and evaluation of the old and newer diuretics, together with studies on the results of a new diuretic administered to pregnant patients.

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RECENT years have seen a new awakening in the clinical and pharmacological research for new and more potent diuretic agents. The clinician is now faced with the problem of choosing and selecting the diuretic agent that will best fulfill the therapeutic needs of the patient. We are now in the throes of the race for diuretic supremacy but this confusion in selecting a diuretic agent need not cloud our thinking as to how the diuretic must be evaluated. This discussion will be limited to some of the diuretic agents that may be useful in Obstetrics and Gynecology and will encompass the currently available agents as well as a diuretic that has not yet been released for general use.

Classification of Diuretics

Figure 1 illustrates the broad general group of diuretic agents that have been used both in the past and are presently used in the field of Obstetrics and Gynecology. These drugs are ammonium chloride, mercurial compounds, benzothiadizines, and aldosterone antagonists. The route of administration in these groups differs in that the mercurial compounds occupy an effective position if given parenterally, whereas the other groups of drugs are administered orally. The electrolytes most involved when this diuretic action occurs are sodium, chloride, and potassium. The degree of potassium wastage has caused the greatest concern among the investigators studying these drugs. The aldosterone antagonists occupy the distinct position of causing a retention of potassium when saluresis occurs. Ammonium chloride also occupies a different role than either the mercurial or benzothiadizine groups in that the loss of potassium is relatively great, however, the period of effective diuresis lasts but for three to four days in spite of continued administration. Both the mercurial and benzothiadizine groups cause continued potassium excretion as long as the diuretic agent is administered. The mercurial diuretics occupy the cornerstone of diuretic therapy and serve as standards against which a comparison is made of the newer diuretic agents.

DIURETICS	Route of Administration	Electrolytes Excreted		
		Na^+	Cl^-	K^+
Ammonium Chloride	Oral	✓	✓	✓
Mercurials	Parenteral	✓	✓	Variable
"Thiadiazines"	Oral	✓	✓	Variable
Aldosterone Antagonists	Oral	✓	✓	Retained

Figure 1.—Broad general groups of diuretic agents used in Obstetrics and Gynecology. The agents, route of administration, and electrolytes excreted are contrasted.

Action of Diuretic Groups

Ammonium Chloride—This acidifying salt makes use of the ammonium ion producing property of the kidney. It supplies excess anions leaving chloride to be excreted that takes with it sodium resulting in saluresis. The first four days until ammonia ion production by the tubules has reached its peak, saluresis occurs; there-

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after, sodium is protected and no diuresis occurs. There is also a proportionate large excretion of potassium during the four days of diuresis.

Mercurials—The site of action is on the proximal renal tubules.[1] The effect on the proximal renal tubule results in an increased sodium and chloride excretion. Tolerance to the mercurial group of diuretics usually does not develop. The onset of action is in two hours with the maximum diuresis seen in six hours with most of the mercury being eliminated by twenty-four hours.[2] Parenteral administration is necessary for effectiveness. These drugs are not contraindicated in preeclampsia.

Benzothiadizine Group—Figure 2 lists some of the currently "newer" diuretic agents available. The trade name, generic

Thiadiazides and Related Diuretics

Trade Name	Generic Name	Tablet Size mg.
Diamox	Acetazolamide	250
Diuril	Chlorothiazide	500
Enduron Hydrodiuril Oretic	Hydrochlorothiazide	50
Naqua	Trichlormethiazide	4
Aldoril	Flumethiazide	500
Saluric	Hydroflumethiazide	50
Naturetin	Benzhydroflumethiazide	5
Hygroton	Chlorthalidone	100
Navidrex	Cyclopenthiazide	0.5
Metahydrin	Trichlormethiazide	4
Enduron	Methyclothiazide	5
Naclex	Ethiazide	50

Figure 2.—The trade name, generic name, and tablet size of the "newer" oral diuretics are listed. Note generic name and addition of groups to parent molecule resulting in milligram size of tablet decreasing.

name and tablet size is also given. The action of acetazolamide (Diamox) is by inhibition of the enzyme carbonic anhydrase that interferes with the ability of the renal tubule to conserve sodium, bicarbonate, and potassium. This drug probably causes more of a potassium depletion than any of the other drugs in this group. Its peak action is seen at six hours and diuresis may last as long as twelve hours. Tolerance occasionally develops and for this reason intermittent therapy is advisable.[2]

The remaining diuretic agents listed in this group share much in common in their pharmacologic action. Figure 3 summarizes the following information of diuretics

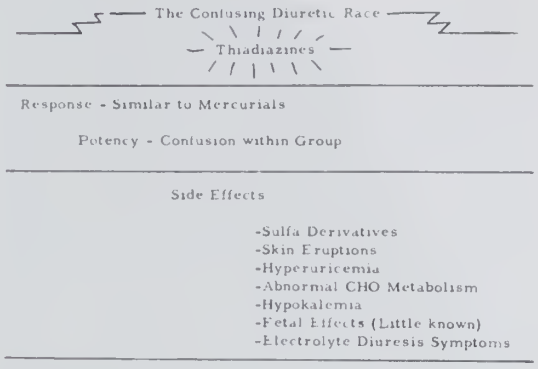


Figure 3.—A summary of the "Thiadiazine" diuretics as to their response, potency, and side effects.

in this group. They behave similar to the mercurial group in that tolerance usually does not develop and their site of action is the proximal renal tubule. Their primary action is a loss of sodium and chloride with proportionately less loss of potassium. Most of these drugs are slightly more potent than the mercurial diuretics. Practically speaking this group of drugs displays no major difference as to the amount of salt or potassium excreted. They share in common certain characteristics, namely, they are powerful diuretic agents but occasionally cause adverse reactions.

These adverse reactions may be of gastrointestinal origin manifested by nausea, vomiting, and occasionally diarrhea or certain skin eruptions. They may cause alterations in carbohydrate metabolism mainly elevated blood sugar levels or diabetic like glucose tolerance curves. They also may cause hyperuricemia and precipitate gouty attacks in patients that are predisposed to this condition.

The onset of action of these drugs usually begins in two hours with a peak level around four hours after administration. Diuresis may continue for eighteen to twenty-four to thirty-six hours. Chronic administration of these drugs may result in hypotension [4, 5] which has been attributed to be due to either the hypovolemia or a blockage of the action of norepinephrine.[2] Diuretic therapy in the pregnant patient does not cause hypotension.

Aldosterone Antagonists—Spironolactone (Aldactone) is one of the newest group of diuretic agents available. They exert their effect only in the presence of elevated levels of aldosterone and block the effect of aldosterone on the distal tubule cells.[2] The diuresis seen in this group of drugs is a salt diuresis without a loss of potassium. The onset of action in this group of drugs is rather slow as sometimes two to four days are needed before a diuresis occurs.

Evaluation of a Diuretic Agent

Before we can intelligently assess the value of a diuretic agent we must first know what effect restriction of salt and bedrest have upon a patient as these are common therapeutic modalities. Figure 4 [10] is abstracted from a double-blind study and illustrates one of the problems of diuretic evaluation. The black portion of the bargraph indicates an excellent diuretic response that was arbitrarily designated as a weight loss greater than 4 pounds in a week. The stippled bargraph indicates a weight loss of at least 1 pound in a week.

It can be seen that a placebo medication will result in one patient out of ten achieving a 4 pound weight loss in a week and four patients out of ten achieved at least 1 pound weight loss in a week. These patients studied were pregnant patients in the last trimester and this response to the placebo medication may indicate that the patient is cognizant of the seriousness of her condition and will possibly restrict her sodium intake and will follow her suggested dietary regimen. This also means that if a diuretic agent is employed a weight loss of more than a pound a week should be seen in more than 40 per cent of patients. If this does not occur the diuretic medication is ineffectual, or, the indication for the medication was not secure.

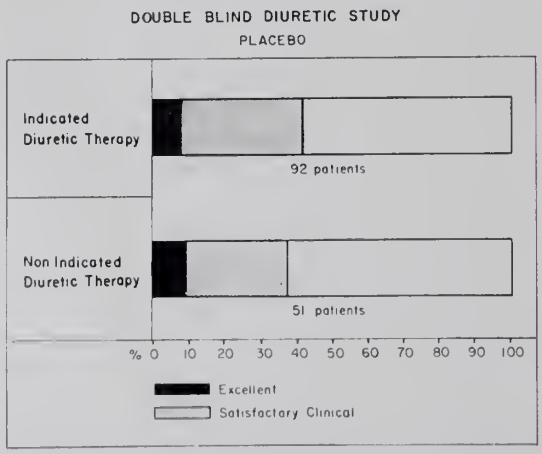


Figure 4.—Summary of results in a Double Blind Diuretic Outpatient Study. The black portion of the bargraph indicates a weight loss of more than four pounds in a week, whereas the stippled portion indicates at least a one pound weight loss in a week.

Figure 5 [11] is a balance ward study on a group of normal patients near term illustrating the efficacy of a low salt diet

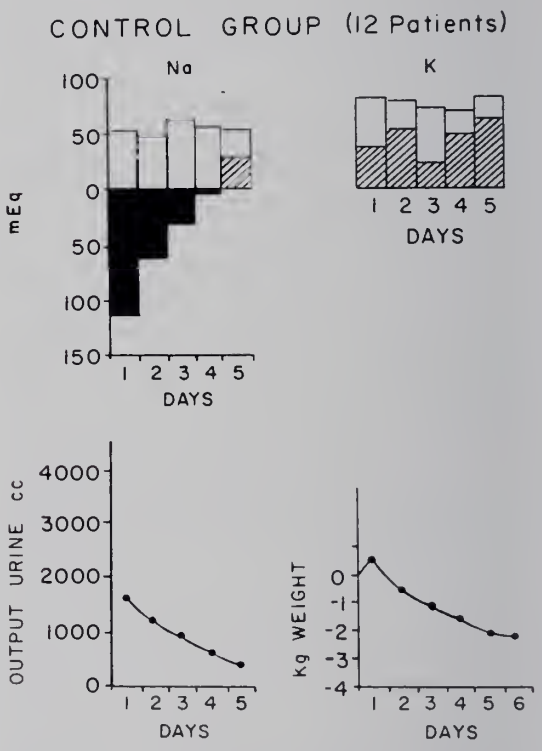


Figure 5.—Balance ward study illustrating the efficacy of bed rest and a low salt diet. They were normal nonedematous pregnant patients in the third trimester.

(1,000 grams) along with bedrest and bathroom privileges. A normal pregnant patient that is not edematous under this regime should lose at least 2 kg. of weight in one week.

Figure 6 [10] illustrates the response that can be anticipated if a diuretic agent is added to this regime in the normal non-

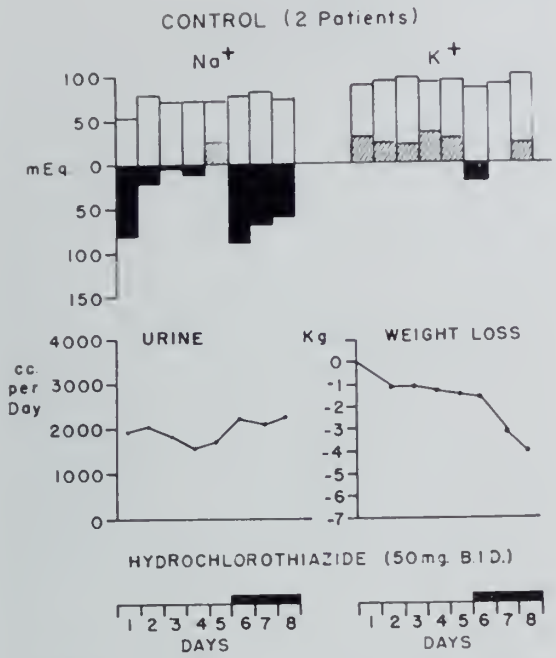


Figure 6.—Balance ward studies on normal nonedematous patients in the third trimester. Hydrochlorothiazide is added to effect further diuresis and weight loss.

edematous patient where an additional 2 kg. weight loss is seen for a total of 4 kg. weight loss over a seven to eight day study period. The edematous patient or the patient who has fluid retention obviously should lose more than the normal patient under the same conditions for the diuretic agent to be of value. These studies again emphasize the beneficial effect of a low salt diet and bedrest in the pregnant patient as a means of achieving diuresis and can be used as guideposts to evaluate diuretic agents.

In these patients studied it should be noted that potassium excretion was not in excess of intake. However, the problem of potassium depletion may be apparent in the patient who has marked edema and fluid retention and has a massive diuresis.

Some obstetricians use the uric acid determination as a guide in the toxemic patient. Since the advent of the benzothiadizine group of diuretics this particular determination is no longer valid if the patient has been on this group of diuretics. Hyperurecemia is more frequently seen after chronic administration of these drugs but may be seen after the administration of a single dose.[12]

An evaluation of the adverse symptoms attributable to diuretics should be understood. Patients achieving a good diuresis may complain of symptoms that are referable to an electrolyte diuresis, namely, fatigue, weakness, leg cramps and occasional nausea. These symptoms are not adverse symptoms to the diuretic but are symptoms referable to electrolyte diuresis. Acute symptoms that are referable to adverse drug reactions are primarily of gastrointestinal origin. Skin eruptions may rarely occur.[13] There is no consistent reaction of one specific diuretic agent in this group to another. Therefore, if adverse symptoms are seen with one agent another diuretic agent may be used with caution.

Hypokalemia is of concern to many investigators. This condition is seen primarily in patients who have been on diuretic medications over a long period of time or in patients who have a low potassium reserve and have a massive diuresis. The correction or prevention of hypokalemia can be by the oral administration of potassium chloride or by adjunctive dietary measures with foods that are high in potassium, namely, prune juice, orange juice and bananas. Some of the diuretic medications now contain added potassium and the medications we have tested with 1,000 mg. of potassium added have caused no untoward gastrointestinal effects and have been tolerated well by patients.

The fetal effects of the thiadiazine group of diuretics is unknown and this certainly is a field for future research. Whether these agents affect the fetal kidney and the status of the amniotic fluid is as yet unknown.

Figures 7, 8, and 9 refer to a study of a new diuretic agent that is not yet released on the market and is known as Cyclopenthiazide (Navidrix—Su8341). Figure 7 illustrates the response of a small number of pregnant patients in the last trimester to this medication. The diuretic medication was used in these patients for

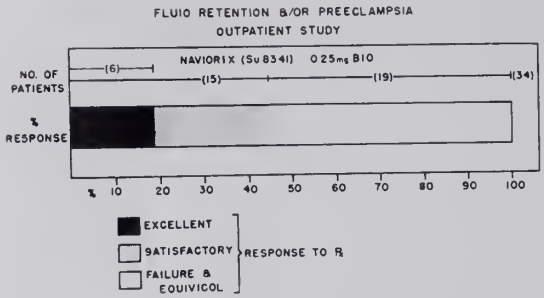


Figure 7.—Summary of Outpatient Study on patients with abnormal fluid retention or preeclampsia. The black portion of the bargraph indicates at least a four pound weight loss in a week. Navidrix dosage was 0.25 mg. b. i. d. for two days, then 0.25 mg. daily for three days.

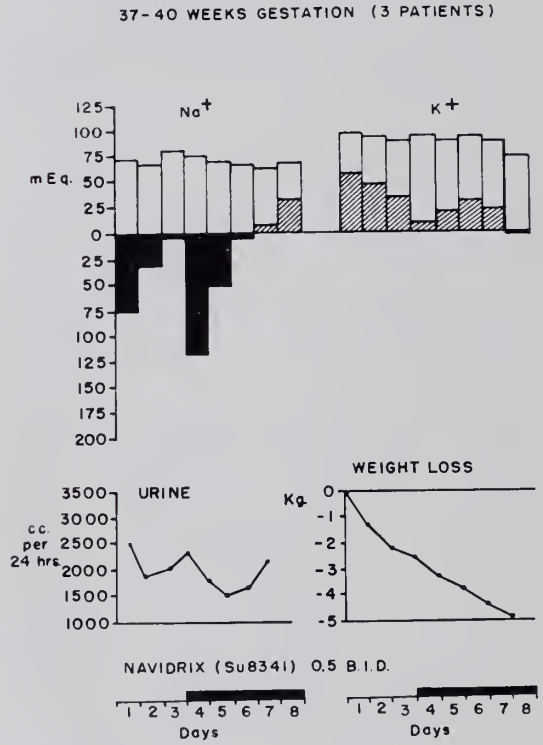


Figure 8.—Balance ward studies using a new diuretic, Navidrix (SU8341), on pregnant patients. Good diuresis is seen after zero balance was achieved. Dosage schedule is b. i. d. as contrasted to every day in Figure 9. The dosage schedule in figures 8 and 9 are roughly twice that of Figure 7.

fluid retention or preeclampsia. The response of these patients to the diuretic agent in the dosage used (0.25 mg. b. i. d. for two days then 0.25 mg. daily for the next three days) illustrates that roughly 2 patients out of 10 had an excellent response which was termed a weight loss of more than 4 pounds in one week. A satisfactory clinical response was seen in approximately 45 per cent of patients during the week's study period. It was felt that this dosage schedule was not sufficient to achieve a satisfactory diuresis when the results were compared with hydrochlorothiazide.[4, 5] Figures 7 and 8 indicate balance ward studies on a group of patients at a higher dosage schedule. The balance ward consisted essentially of bedrest with bathroom privileges, distilled water to drink and special weigh-back diets of known electrolyte content. Twenty-four hour urines were collected for electrolytes and the clinical status of the patient was evaluated daily. A satisfactory diuresis is seen when the dosage schedule is increased to 1 mg. a day (1 mg. daily or 0.5 mg. b. i. d.).

This drug compares favorably with hydrochlorothiazide except that relatively more potassium excretion was noted. However, this potassium excretion pattern was still not in excess of intake. The two dosage schedules (1 mg. daily or 0.5 mg. b. i. d.) show only minor differences in total diuresis during the balance ward studies. It would seem that a single daily dose of 1 mg. of Cyclopenthiazide (Navidrix) is the schedule of choice. The weight loss in both groups at the end of the study period is similar.

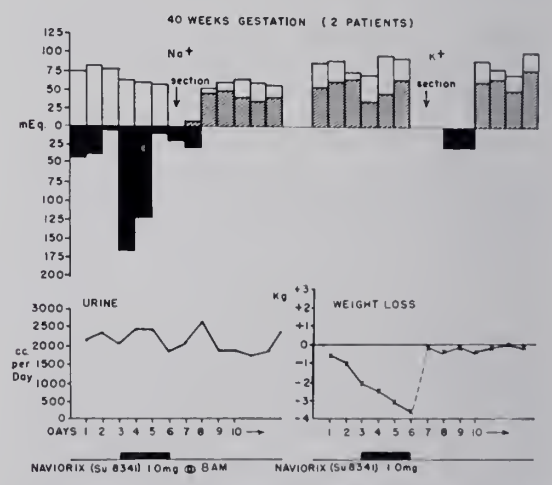


Figure 9.—Balance ward studies using a single daily dose of Navidrix (SN8341). More saluresis is seen at this dosage schedule.

Discussion

The choice of a diuretic agent in the field of Obstetrics and Gynecology will find use in gynecology in the patient who has premenstrual edema and premenstrual tension as well as the patient who has symptomatic chronic cystic mastitis with midcycle painful breasts. The judicious use of diuretic agents at this time will often alleviate or lessen the symptoms. The etiology of this premenstrual fluid retention is obscure but the antidiuretic hormone may be involved.[14] The diuretic medication should be given three to five days before the menses and continued through the first day of the menses. The dosage of the diuretic medication can be altered by having the patient observe her daily weights.

The main use of the diuretic agents is seen in the field of obstetrics and here the pregnant patient who has fluid retention may be treated effectively with these new oral diuretic medications. They are most helpful in controlling the edema seen in the toxemias of pregnancy and may also play a role of questionable value in patients who have hydramnios. The patient who elects not to nurse and has postpartum breast discomfort or postpartum edema can also be treated effectively with these agents. Few problems will be encountered with short term (less than a week) diuretic therapy except for a rebound weight gain. This rebound weight gain can be avoided by gradually tapering off the diuretic medication. Maximum diuresis can be anticipated by the second to fourth day of therapy and hereafter the diuretic dosage can be decreased.

The word potency is often used in discussing these newer diuretic medications. The word "potency" apparently is a key word to the male species. It is used frequently to compare one diuretic agent to another. The main emphasis in understanding should be that one diuretic agent essentially compares favorably to another diuretic agent in the tablet size that is available. The "potency" of the newer diuretic agents concerning mg. size is now delegated to the ingenuity of the pharmacologist or chemist in altering the basic structure of the molecule. Alterations of the basic molecule thus far have not resulted in major significant advantages of one diuretic agent over another. I would urge physicians that use diuretic agents to familiarize themselves with one or two particular diuretics; know the contraindications and indications of these agents instead of using each new diuretic agent that is marketed. At the present time they are all very similar as to their diuretic efficacy and all are extremely "potent" useful diuretics. None of the diuretics are without certain hazards and it behooves each of us to be aware of the problems that can be encountered in patients that are given diuretic medications.

Conclusions

1. Diuretic agents that are useful in the field of Obstetrics and Gynecology have been enumerated.

2. It is necessary to know the response of a placebo medication, low salt diet, and bedrest before a diuretic agent can be evaluated as to its efficacy.

3. The results of a new diuretic agent, Cyclopenthiazide (Navidrix—Su8341) are given on outpatients and balance ward studies. This diuretic agent has therapeutic efficacy at a higher dosage schedule. This was confirmed by balance ward studies.

References

1. Vander, A. J., Malvin, R. L., Wilde, W. S., and Sullivan, L. P.: Localization of the Site of Action of Mercurial Diuretics by Stop Flow Analysis, American Journal of Physiology, 195:558, 1958.

2. Friend, D. G.: Modern Diuretics and Diuretic Therapy, Clinical Pharmacology and Therapeutics, 1:5, 1960.

3. Cejka, V., De Vries, L. A., and Borst, J. G. G.: The Diuretic Effect of Spirolactone SC-9420 in a Case of Secondary Aldosteronism, The Lancet, Feb. 6, 1960, pp. 312-314.

4. McQueen, E. G. and Morrison, R. B. I.: The Hypotensive Action of Diuretic Agents, The Lancet, June 4, 1960, pp. 1209-1212.

5. Conway, J and Lauwers, P., Hemodynamic and Hypotensive Effects of Long-term Therapy with Chlorothiazide. Circulation, 21:21, 1960.

6. Finnerty, F. A., Jr., Buchholz, J. H., and Tuckman, J.: Evaluation of Chlorothiazide (Diuril) in the Toxemias of Pregnancy, Analysis of One Hundred Forty-Four Patients. J. A. M. A. 166:141, 1958.

7. Assali, N. S., Judd, L., Mondz, B. A., and Dasgupta, K.: Diuretic Effects of Chlorothiazide in Toxemia of Pregnancy. J. of Lab. and Clinical Med., 52:423, 1958.

8. Zuspan, F. P., Barnes, A. G., and Bell, J. D.: Diuretic Evaluations in the Toxemias of Pregnancy. Surgical Forum 10:706, 1959.

9. Zuspan, F. P., Bell, J. D., and Barnes, A. C.: Long-term Diuretic Therapy in the Pregnant Patient. Obstet. and Gynec. 16:581, 1960.

10. Zuspan, F. P., Bell, J. D., and Barnes, A. C.: Balance-Ward and Double-Blind Diuretic Studies During Pregnancy. Obstet. and Gynec. 16:543, 1960.

11. Zuspan, F. P. and Bell, J. D.: Balance Ward Studies With Variable Salt Loading During Pregnancy. Ob.-Gyn. In Press.

12. Siegel, I. and Dubin, A.: The Hyperuricemic Effect of Chlorothiazide (Diuril) in Pregnant Women. Obstet. and Gynec. 15:226, 1960.

13. Dinon, L. R., Kim, Y. S., and Vander Veer, J. B.: Clinical Experience with Chlorothiazide (Diuril), with Particular Emphasis on Untoward Responses. A Report of 121 Cases Over A 15 Month Period. Amer. J. Med. Sci., 236:533, 1958.

14. Zuspan, F. P., Barnes, A. C., and Dillhoeffer, J.: The Urinary Excretion of Antidiuretic Substances by the Obstetric and Gynecologic Patient. Am. J. Ob.-Gyn. 76:619, 1959.

Extracts from an Old History of Louisiana

Translated by Thomas Layton, M. D.
and read before the Orleans Parish Medical Society
June 26, 1882

"There are but few days on which the sun does not shine in Louisiana; the rain falls only as the result of thunder storms; bad weather does not last long, and all traces of the same disappear in half an hour; the dew is, however very copious and takes the place of rain. It will, therefore be believed without difficulty, that the atmosphere is perfectly healthy; the blood is good; in that country men enjoy excellent health, are liable to but few diseases during their prime, and are not decrepit in old age, which is much greater than in France. Life is long and agreeable in Louisiana for all who abstain from debauchery. (Histoire de la Louisiane par M. Le Page du Pratz, Paris, 1758)

New Orleans M. & S. J. 10:241, (October) 1882.

Acute Renal Failure In Obstetrical Patients

• This is a serious though infrequent complication of obstetrical patients. There were six deaths in a series of eighteen patients over a period of eight years on the L.S.U. Division of Obstetrics.

JAMES G. MULE, M. D.
CHARLES H. STEWART, M. D.
New Orleans

ACUTE renal failure is a serious though infrequent complication of obstetrical patients. While kidney failure is strongly suspected whenever the urine output decreases hourly (20 cc. or less), the diagnosis is established in the presence of anuria or a reduction in urine volume to less than 400 cc. for the preceding twenty-four hours.

In the eutopic obstetrical environment, in the absence of hypertensive toxemia, abruptio placenta, obstetrical hemorrhages, infection, obstetric shock, and incompatible blood transfusions, this complication of the kidneys would be extremely rare. However, on the L.S.U. Division of Obstetrics at Charity Hospital in New Orleans, the incidence of toxemia is 17 per cent in the overall predominantly Negro delivery population. A review of the obstetrical records reveals that abruptio placenta is diagnosed twice as often in these patients as in the general obstetrical population.[1] These obstetrical complications, namely toxemia and abruptio placenta, are implicated individually or in combination in the majority of patients who develop acute renal failure on this service. It becomes obvious that this syndrome is of numerical importance here since this service is responsible for approximately 9,000 deliveries per year.

Although patients with transitory renal failure, i.e. less than forty-eight hours duration, are not included in the series of patients presented in this paper, an outline defining acute renal failure by duration is presented (Table 1). Though it is

TABLE 1
ACUTE RENAL FAILURE IN OBSTETRICAL PATIENTS

I.	Functional (Duration 24-48 hours)
II.	Organic
	A. Temporary (48 hours or more)
	B. Permanent

probable that transient oliguria is a functional phenomenon, the presence of organic disease cannot be excluded since renal tissue studies were not done on these patients. The time period of forty-eight hours, arbitrarily chosen to delineate functional from organic causes of oliguria, is based upon complete recovery in this short period. In these patients, there is an absence of clinical and laboratory changes characteristic of the gradual increase in daily urine volumes associated with anatomic lesions of the kidneys. The patients usually exhibiting this "short term" oliguria are those manifesting an acute decrease in plasma volume (hemoconcentration) often resulting from hyperemesis gravidarum, heat exhaustion, sepsis and severe acute toxemia (often eclampsia). Other patients with decreased cardiac output secondary to heart failure or shock resulting from severe hemorrhage or adrenal failure also manifest oliguria. Patients with bilateral ureteral block as a result of stones or surgical trauma are

* Presented at the Eightieth Annual Meeting of the Louisiana State Medical Society, May 3, 1960, in Baton Rouge.

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excluded from consideration here. Since the obstetrical complications listed above are well defined, one may thus recognize the individual most likely to develop renal failure.

During the past eight years, 18 patients developed prolonged oliguria following obstetrical accidents on the L.S.U. Division of Obstetrics. Table 2 depicts the obstetrical complications associated with prolonged acute renal failure in 17 of these patients. The evidence here supports the contention that acute renal failure occurs more frequently when hypertensive toxemia and placental abruption co-exist than when either one or the other of these occurs separately.[1] The maternal prognosis is grave when cardiovascular collapse occurs by itself or concomitantly with the above. Of eight patients manifesting this sign, five are dead.

The development of infection in these patients could be attributed in part to the poor general condition resulting from hemorrhage, shock, trauma and/or stress. When the infection persisted into the diuretic phase, the maternal prognosis was most grave. Four of the six patients presenting this clinical picture are dead.

Five patients developed acute renal failure after incompatible blood transfusions, phenol intoxication, eclampsia, and nontoxic abruption of the placenta. All of these patients are living and well.

Pathogenesis

The causative factors and pathogenesis for the production of transitory renal failure, termed here as functional oliguria, are indistinguishable from those resulting in prolonged oliguria or anuria. Whether or not the patient sustains tubular damage, or extensive cortical necrosis, can be determined by the subsequent clinical course or renal tissue studies. The oliguria is a net result of a decrease in renal blood flow and glomerular filtration in both groups with probable indiscriminate reabsorption of the filtrate in those patients sustaining tubular epithelial disruption.[2]

The pathogenesis of tubular epithelial necrosis or, worse, renal cortical necrosis remains obscure.[3] Many investigators have emphasized the significance of the duration and severity of illness to the subsequent organic renal changes of a temporary or permanent nature.[3-5] In line with this reasoning, abruptio placenta and coexistent toxemia were the most common factors, 6 of 18 patients, in the production of prolonged renal failure in this series.

TABLE 2
OBSTETRICAL CONDITIONS ASSOCIATED WITH PROLONGED OLIGURIA

	Number of Patients		
	Living	Dead	Total
1. Severe preeclampsia and abruptio placenta (1 pt. with cardiovascular collapse & sepsis—dead)	2	1	3
2. Eclampsia and abruptio placenta (1 pt. with cardiovascular collapse & sepsis—dead)	2	1	3
3. Eclampsia (1 pt. with cardiovascular collapse)	2	0	2
4. Abruptio placenta, hypofibrinogenemia and postpartum hemorrhage with cardiovascular collapse	1	0	1
5. Hemorrhage, cardiovascular collapse & sepsis (1 pt. multiple pregnancy, 1 pt. ruptured uterus, 2 pts cesarean section) (3 pts. septic in diuretic phase—dead, 1 pt. septic in diuretic phase—living)	1	3	4
6. Infected abortions (criminal) (2 pts. septic in diuretic phase)	1	1	2
7. Phenol intoxication	1	0	1
8. Incompatible blood transfusion	1	0	1
9. Unknown	1	0	1
TOTAL	12	6	18

Enumeration of the pathophysiological changes attending this combination of obstetrical complications reveals a mechanism for severe renal ischemia and anoxia. The hemoconcentration and generalized vasospasm of toxemic patients are well documented. Hemorrhage and cardiovascular collapse often complicate those patients with abruptio placenta. Coupled with the above are fibrinogen alterations resulting in micro emboli or fibrin deposits in kidney arterioles.[2] These combined and additive factors are responsible for subsequent organic lesions. Two of the six patients with abruptio placenta and toxemia are dead. Both of these patients had bilateral massive renal cortical necrosis.

Clinical Course

The time honored division of the clinical course of reversible renal failure into three phases is retained here. The onset of phase I is usually simultaneous with the near maximum heighth of an obstetrical illness affecting the cardiovascular system or following entrance of nephrotoxic substances into the blood stream. If renal suppression does continue for forty-eight hours following correction of these predisposing factors, it is assumed that the basis for this complication is an anatomic lesion of the kidneys. The clinical course has now entered phase II, the prolonged stage of oliguria. For 15 of 18 patients in this series, the average period of oliguria was ten days with a range of three to nineteen days. The third and final phase, the stage of diuresis is defined in this paper by a significant increase of urine output to 1000 cc. per day.

During the first phase, the clinical and laboratory findings are peculiar to the obstetrical condition preceding the onset of renal suppression.

In the event the patient sustains prolonged oliguria or anuria, certain clinical and laboratory changes occur which are an indication of the severity of the patient's illness. With proper therapy, the patient's sensorium usually remains clear during the first week. Continuation of the oliguric phase leads to irritability, lethargy and subsequently coma. The heart sounds may become muffled, and irregularities in rate and rhythm become apparent. The patient's breathing becomes labored and rapid. Coupled with the above are chemical changes which may be significant or coincidental in the production of these clinical signs of deterioration. The marked decrease in hematocrit is partly explained by hemo-dilution, suppression of the hemopoietic system and the increased hemolysis of red cells in the presence of uremia.[13] All of the known nitrogenous products are increased. The serum sodium tends to decrease concomitantly with a rise in serum potassium. Acid-base balance studies reveal a severe acidosis in most patients. This acidosis is enhanced by metabolic tissue breakdown and protein catabolism as evidenced by a rise of phosphates, sulphates, and other acid metabolites. Hypocalcemia is often present but not to the same extreme as chronic renal insufficiency. Tetany has been rarely observed.[6] The convulsions of tetany, over dehydration, and eclampsia are important since lactic acid is released thus increasing acidosis. The presence of edema is evidence of overhydration.

If the patient survives to phase III, the diuretic phase, the sensorium gradually clears. The cardiac abnormalities disappear. Infections incurred during the anuric phase may persist. The blood urea nitrogen remains elevated and may rise following the onset of diuresis because of preferential water loss by the kidney, the lack of sufficient urea clearance for endogenous urea production, and the incomplete return of tubular integrity.[8] By the third or fourth day of diuresis, the blood nitrogen levels begin to decline toward normal. Early in diuresis the serum sodium and potassium levels fall since the renal tubules are unable to control electrolyte reabsorption. Tests of function such as urea clearance and insulin clearance may not return to normal for months and occasionally never.[7] The reason for the persistent anemia is not completely under-

stood, but reflects the patient's response to uremia.[13]

Therapy

Emphasis is placed upon prevention or immediate recognition and correction of those well defined obstetrical complications usually preceding anatomic lesions of the kidney. The quantity and quality of prenatal care are all important in prevention and in the intelligent management of obstetrical complications such as toxemia, hyperemesis gravidarum and sepsis. Since these conditions are frequently responsible for oliguria, it is essential that an accurate accounting of the fluid intake and output be recorded on these patients.

The early phase of oliguria attending those patients with severe pre-eclampsia-eclampsia is probably secondary to plasma dehydration (hemoconcentration), afferent arteriolar constriction and reversible glomerular lesions. It is essential that these patients are hospitalized and on complete bed rest for effective therapy of these patho-physiological changes. Bed rest in itself often has a beneficial diuretic effect. Sedatives such as morphine sulphate, magnesium sulphate, and more specific vasodilator-relaxant compounds such as veratum and thalazine derivatives are important to prevent progression of the disease process as well as occasionally effecting a return of the clinical picture toward normal. If the oliguria, a grave prognostic sign, persists then delivery of the infant is indicated and usually met with a welcomed diuresis.

Abruptio placenta is not uncommonly associated with toxemia. The former may present additional hazards of coagulation defects secondary to lowered fibrinogen levels with subsequent increased hemorrhagic tendencies. In this event, artificial rupture of the membrane and expeditious delivery by the vaginal or abdominal route is indicated. Blood replacement and other measures to combat hypotension, fibrinogen administration, and anti-hypertensive agents are utilized as indicated.

Prevention of the organic kidney lesion subsequent to incompatible blood transfusion is best done by careful type and matching and Coombs testing. If this unfortunate accident is apparent, then intravenous administration of basic solutions in an attempt to prevent kidney changes are unsuccessful. In fact, great harm may attend this therapy in the patient with increased body stores of sodium and water usually characteristic of near term pregnant patients.

In the event of puerperal vasomotor collapse associated with toxemia, the administration of hypertonic sodium solutions (250 cc. 5% NaCl) are effective.[9-10] In the case of acute adrenal failure usually following sudden bacteremia then combination of the above treatment with specific adrenal replacement therapy and massive doses of antibiotics are indicated. An obvious necessity is immediate recognition of the etiology and institution of proper therapy in these cases in an attempt to correct deranged vital signs and thus circumvent visceral damage.

Oliguria secondary to dehydration from hyperemesis gravidarum and/or sepsis must be recognized and immediately corrected. The value of adequate prenatal care and objective evaluation of the patient by physical examination including weight records and simple office laboratory procedures to detect dehydration and starvation is emphasized. The packed cell volume will indicate hemoconcentration (reduced plasma volume) and a urinalysis will reveal an increased specific gravity and the presence of significant amounts of acetone. The specific gravity may be low in such cases in the presence of marked depletion of body electrolytes or parenchymatous lesions of the kidneys. Hospitalization is recommended for these patients. The choice of fluid for administration is important here. The administration of glucose solution without proper electrolyte components could result in water intoxication by hemodilution and subsequent decrease in blood electrolytes with further deterioration of the clinical picture. Isotonic sodium chloride solutions, combined with glucose are effective and sufficient to accomplish hydration, restoration

of electrolyte balance, and nourishment. Since the usual deficit approximates 5 liters of saline, the administration of 2500 cc. of 10 per cent glucose in normal saline and 1000 cc. of 10 per cent dextrose in distilled water in this order will safely and partly correct previously mentioned deficiencies. Following the administration of these fluids over an eight to twelve hour period, the packed cell volume, urine output, and specific gravity, and possibly, serum electrolytes should be evaluated. This collective evaluation is necessary at this time so that deleterious over-correction is prevented in the presence of anatomical lesions of the kidney as indicated by continued oliguria or anuria.

Other patients may develop decreased urine output secondary to heart failure. The value of appropriate and immediate correction of this serious complication need not be elaborated upon.

Oliguric Phase

Following adequate specific therapy for the acute phase of the aforementioned clinical entities, the persistence of oliguria or anuria indicates the presence of more serious parenchymatous lesions of the kidneys. At this time, it is important to limit the intake of water, electrolytes and proteins. These precautions are necessary since an immediate danger is overhydration and heart failure or water intoxication and convulsions resulting from cerebral edema. Also, protein ingestion with subsequent increased protein catabolism may result in death due to potassium intoxication as well as severe acidosis by liberation of acid metabolites such as phosphates and sulphates.

Since continued carbohydrate intake helps prevent protein catabolism, the administration of approximately 200 grams of glucose per day is essential. This nourishment is preferably administered orally. The parenteral route of administration is essential in the presence of nausea and vomiting. Insulin in the ratio of 1 unit per 4 grams of glucose is recommended so that glycogen storage and metabolism is enhanced.

The fluid intake is limited to 500 cc. plus the previous twenty-four hours output from the genito-urinary or intestinal tracts. The ideal therapy includes daily weight of the patient in an effort to effect a loss of one-fourth to one-half pound per day.[11] This philosophy of management is especially valuable in the obstetrical patient who is usually edematous at the onset of these obstetrical accidents.

The administration of large doses of calcium salt is helpful as a potassium antagonist.[12] Large doses of calcium administered in the presence of digitalis therapy may cause an unwanted increased effect of the latter drug.

A decrease in serum sodium, CO_2 combining power and red cells are expected. With the exception of nasal oxygen, correction of these derangements are not attempted unless the patient exhibits signs of air hunger or potassium intoxication. Since acidosis favors the release of potassium, the administration of sodium lactate, a powerful antagonist to potassium, will temporarily reduce intoxication and prepare the patient for more effective means of elimination of all injurious substances. Cationic resins are helpful but not so reliable as to preclude the elimination of calcium and other ions rather than potassium.

If the hematocrit drops to 20 mm.% or there is evidence of anoxia from anemia, then the administration of packed *fresh* red cells may be beneficial. This level of circulating red cells may result in tissue hypoxia with resultant cardiac dysfunction and a delay in repair of vital organs during the regenerative period. *Caution* is advised in the decision for blood transfusion in the absence of symptomatic anoxia. The danger of an injurious transfusion reaction or shortened life span of infused red cells in the face of uremia [13] and liberation of more potassium may outweigh the desired beneficial effects.

Deterioration of the patient during conservative management necessitates expert attention, more effective and ofttimes complicated methods of therapy. Here

lies the importance of the "artificial kidney". For these reasons, the internists responsible for direction of the "kidney station" in Charity Hospital at New Orleans are consulted regularly for their invaluable contribution toward management and observation of these patients. At present, this service is under the capable direction of Doctors Meyer Kaplan and David J. Mykoff of the Department of Medicine in the L.S.U. School of Medicine. The decision to perform vivo dialysis is based upon careful daily and frequently hourly examinations of the total clinical picture. Particular attention is paid to a cloudy sensorium, hyporeflexia, weakness, muffled heart sounds coupled with arrhythmias, abnormal electrocardiograms, trend of urinary output and blood chemical determinations of potassium, CO_2 and nitrogenous products. Early detection of these signs of acute intoxication is essential for immediate proper therapy in order to prevent irreversible visceral damage.

The clinical and laboratory data on six of seven obstetrical patients in the immediate pre and post dialysis periods is presented (Table 3). The marked improvement in the state of consciousness, reversal of electrocardiographic changes and decrease in blood urea nitrogen and serum potassium levels are indications of the effectiveness of this method of therapy. Two patients, M.S. and M.V., died. Renal tissue studies revealed irreversible massive cortical necrosis. Though this procedure is not without danger, the severity of illness warrants its use in some cases. Also, the severity of illness does not contraindicate the use of the "artificial kidney". In some centers, vivo dialysis is used earlier in the course of therapy. This decision is probably based upon the premise that the patient is better able to withstand the dangers of circulatory overloading, hemorrhage secondary to anticoagulant (heparin) administration, and infection in the form of septicemia following blood contamination.

If the patient develops signs of infection, it is important to obtain cultures and antibiotic sensitivity studies from all orifices and excretory products, namely urine, so that appropriate and effective antibiotic therapy may be employed. As mentioned earlier, the persistence of infection in the diuretic phase when the general condition of the patient is at the lowest ebb, is a serious prognostic sign.

The onset of diuresis is usually followed by a marked improvement in the clinical picture. Recovery of the patient in this phase may be seriously hampered by a marked depletion of body electrolytes secondary to excessive urinary losses. This complication is best managed by adequate replacement based upon daily determinations of the total loss of urinary sodium, potassium and chloride.

Summary and Conclusions

1. Emphasis is placed upon prevention or immediate recognition and correction of the well-defined obstetrical complications preceding acute renal failure.

2. The obstetrical complications in this series of patients most commonly associated with anatomical lesions of the kidneys were toxemia, abruptio placenta, hemorrhages, infection and incompatible blood transfusions. The most frequent of these antecedent complications were toxemia and abruptio placenta, 9 of 18 patients.

3. There were six deaths in this series of eighteen patients. Two of these patients had massive renal cortical necrosis.

4. The most serious complication of prolonged oliguria in this series of patients was the persistence of infection into the diuretic phase. Four of six of these patients died.

5. Seven of eighteen patients received vivo dialysis when conservative measures failed. The beneficial effects of this form of therapy are presented in these patients.

References

1. Mule, J. G.: Acute Renal Failure in Patients with Placental Abruption. Bull. Maternal Welfare, July-August, 1957.

2. Redish, J., West, J. R., Whitehead, B. W. and Chasis, H.: Abnormal Renal Tubular Back Diffusion Following Anuria. J. Clin. Invest. 26:1043, 1947.

3. Sheehan, H. L. and Moore, H. C.: Renal Cortical Necrosis and the Kidney of Concealed Accidental Hemorrhage. Springfield, Illinois: Charles C Thomas, P 186, 1953.

TABLE 3

COMPARISON CLINICAL & LABORATORY DATA IN IMMEDIATE PREDIALYSIS & POST DIALYSIS PERIODS

	P.C.V.		Serum Electrolytes Na+ mEq/L.		Serum Electrolytes K+ mEq/L.		B.U.N. MG.%		CO_2 mEq/L.		E.K.G.		Sensorium	
	Pr.D.	Po.D.	Pr.D.	Po.D.	Pr.D.	Po.D.	Pr.D.	Po.D.	Pr.D.	Po.D.	Pr.D.	Po.D.	Pr.D.	Po.D.
M.S.	21	26	138.7	148	6.54	3.22	52	46	12.0	N.R.	Norm	Norm	Semi Coma	Lucid
M.V.	17	21	125.0	155	7.0	3.9	125	48	8.5	N.R.	Norm	Norm	Leth.	Delerium
G.M.	27	N.R.	135.1	134	6.8	4.6	N.R.	59	15.7	23.9	Norm	Norm	Leth.	Alert
A.T.	23	25	N.R.	135	7.85	3.3	91	23	N.R.	18	Cond. Defect	Norm	Leth.	Lucid
J.V.	20	25	129.5	133	5.65	3.4	178	101	10.8	23	Cond. Defect	L.V.H.	Leth.	Lucid
F.G.	23	N.R.	144	150	6.0	4.1	245	100	8.9	19	Norm	Norm	Semi Coma	Lucid
D.M.*	—	—	—	—	—	—	—	—	—	—	—	—	—	—
AVG.	22	24	134	143	6.64	3.8	124	63	11.2	21				

* D.M.—Chart containing clinical and laboratory data on this hospital admission (1951) lost. Patient last seen in Urology clinic on 3/10/58—clinically well.

4. Russell, Keith P., Muharry, J. F. and Stehly, J. W.: Acute Renal Failure as an Obstetric Complication. J.A.M.A., 157:15, 1955.

5. Bull, G. M., Jockes, A. M. and Lowe, K. G.: Acute Renal Failure Associated with Concealed Accidental Hemorrhage of Pregnancy. Lancet, 2:1152, 1955.

6. Muslow, I.: Medical Management of Acute Renal Failure. J. Louisiana State M. Soc., 108:38, 1956.

7. Lowe, K. G.: Late Prognosis in Acute Tubular Necrosis. Lancet, 1:1086, 1952.

9. Franklin, S. S. and Merrill, J. P.: Acute Renal Failure. New England J. Med., 262:761, 1960.

9. Tatum, H. J. and Mule, J. G.: Low-Salt Syndrome in Obstetrics and Gynecology. Obstet. and Gynec., 10: 561, 1957.

10. Tatum, H. J. and Mule, J. G.: Puerperal Vasomotor Collapse in Patients with Toxemia of Pregnancy—A New Concept of the Etiology and a Rational Plan of Therapy. Am. J. Obstet. & Gynec., 71:492, 1956.

11. Swann, R. C. and Merrill, J. P.: Clinical Course of Acute Renal Failure. Medicine, 32:215, 1953.

12. Meroney, W. H. and Herndon, R. F.: The Management of Acute Renal Insufficiency. J.A.M.A., 155:877, 1954.

13. Emerson, C. P.: Pathogenesis of Anemia in Acute Glomerulonephritis. Estimations of Blood Production and Blood Destruction in a Case Receiving Massive Transfusions. Blood, 3:363, 1948.

Discussion

Dr. Meyer Kaplan (New Orleans): I would like to commend Drs. Mule and Stewart, for covering their topic so clearly. Their opinions on the management of obstetrical cases of acute renal failure parallel closely those of the staff of the artificial kidney unit at Charity Hospital. Such agreement on therapeutic principles has made our task in managing these cases much simpler. It has been possible to salvage some of these cases only because of the dedicated care which these patients received from Dr. Mule and the Obstetrical house staff. I will only attempt to underscore and reemphasize some of the facts which I feel are of great importance.

Dr. Mule has shown that acute renal failure due to acute tubular necrosis, or more rarely due to bilateral cortical necrosis, occurs as a result of certain obstetrical complications and crises. If such complications could be prevented or minimized, the incidence of acute renal failure could be reduced.

(a) Toxemia of pregnancy with its severe hypertension and intense renal vasoconstrictions may result in acute renal shutdown. It is our feeling that more careful and aggressive therapy of preeclampsia-eclampsia by means of salt restriction, diuretics, sedation, and vasodilator therapy may prevent the more severe toxemias, thus reducing the incidence of acute renal failure.

(b) When abruptio placentae is superimposed on a toxemia of pregnancy, the incidence of renal complications increases. The management of this obstetrical catastrophe involves the proper application of various therapeutic measures, such as the timely termination of the pregnancy, adequate diuretic and antihypertensive therapy, the appropriate, and adequate use of carefully crossed matched blood transfusions and if necessary, the use of adequate quantities of intravenous fibrinogen.

(c) Many of our cases of acute tubular necrosis have occurred as a result of renal ischemia due to hemorrhagic shock or as a result of the administration of hastily and incorrectly crossmatched blood to patients with severe obstetrical hemorrhage. I think it is wise to have all complicated pregnancy cases typed prior to delivery so that if blood is required, it will not have to be hastily obtained. It is this haste in emergencies which has often resulted in incompatible transfusions. Even in emergencies one should check back to determine if the blood to be administered is the same type as that known for the patient. Failure to observe this simple precaution has resulted in instances of incompatible blood administration.

(d) The prompt diagnosis and effective antibiotic therapy of all cases of infection will reduce the incidence of bacteremia and shock which could result in renal shutdown.

(e) The prompt reversal of any hypotensive episode, from whatever cause, will also reduce the incidence of renal failure. The prevention or prompt treatment of dehydration and electrolyte depletion, is also important.

In regard to the diagnosis of acute renal shutdown, the great majority of acute renal failures reveal their presence by a marked reduction in the urine output. Of course it may not be possible to decide immediately whether an episode of oliguria will be only transient due to some functional disturbance, or whether it indicates true structural damage to the kidney. Only a period of observation will tell the true story. However, it is vital that the onset of oliguria be detected promptly so that the appropriate treatment may be immediately instituted to reverse the oliguria, if it is due to functional causes, lest these functional changes be converted to structural organic damage to the kidneys. If the oliguria is due to true renal shutdown, it is necessary that its onset be detected early to prevent over-hydration of the patient. I cannot urge you too strongly to always be aware of what is occurring in regard to the urine output in your patients who have had recent surgery, blood transfusions, hemorrhages, or any severe toxemia of pregnancy.

I will not burden you with a repetition of the principles of management of acute renal failure as these have already been outlined by Drs. Stewart and Mule. Actually, I do not believe that most practitioners or obstetricians will want to assume the responsibility for such care. The management of these cases is time-consuming,

and requires such personalized care that it is best performed by specially trained personnel. This type of care is available only in large medical centers by a specially trained team.

It is my opinion that once the diagnosis of persistent oliguria or anuria is made, contact should be established with the nearest medical center which has artificial kidney facilities and arrangements made for the transfer of the patient to that institution. Here the patient will be managed expectantly with fluid and salt restriction, methods to combat potassium intoxication and therapy designed to retard as much as possible, the progression of the uremic process. In many cases such treatment will be rewarding and the patient will begin to diurese and will recover. However, other cases will continue to be oliguric and their condition will continue to deteriorate, at times with surprising rapidity. Such cases will require the use of artificial renal hemodialysis as a life saving procedure. It is far better to prematurely or even unnecessarily transfer a case of renal shutdown to an artificial kidney center than it is to have one of these cases suddenly deteriorate and expire before such a transfer can be effected.

The Drug Store of the Future

Let us look ahead ten or twelve years and see ourselves as druggists under the unchecked working of the trade-marks system. One of us, who has been out of the business during these ten or twelve years, calls upon his old friend the druggist of that time and asks for the best physician in the neighborhood. The druggist answers: "Oh, there is no difference in any of them; they are all alike. You see things are different now from what they were when you were in the business—excuse me, when you were a member of the profession. You see the physicians have gradually worked into a plan of asking the patient what is the matter with him, and then by referring to a little pocket remedy book, well indexed, he finds the article that suits his case and prescribes it. * * * You see the manufacturers have meetings every three months and add to and correct these lists. I have one of these books * * *. The title is "The Consolidated Trade-Mark Manufacturers' Manual, for Physicians Only." If a man says he is bilious, the physician turns over to B and follows down through Ba, Be, to Bi—there you have it: "Biliousness, for all cases of biliousness use Hyfalutine, Pseudocetine, etc. etc."

The Pharmacist, May 1882, Ther. Gaz. June.

New Orleans M. & S. J. 10:300, (October) 1882.

Some Newer Electronic Developments In Diagnostic Radiology

1961 Menville Memorial Lecture*

• In his address, the annual commemoration of Dr. Leon Menville, the author gives a most interesting presentation of the growth of diagnostic radiology, made possible by the advances in electronics.

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TODAY controversy is widespread and vigorous over the modern schism between science and the arts. It is reflected in the present concern of medical educators about the lack of background in the humanities exhibited by medical graduates. In honoring Doctor Leon Menville we are directing attention to many of the personal attributes that, embodied in one individual, call to mind the well rounded "renaissance man" which might be regarded as the ideal of the present educational effort. For Doctor Menville combined great warmth of personality, charm, humor and compassion with professional competence, scholastic and scientific achievement, love of teaching and civic pride and responsibility. My knowledge of Doctor Menville is unfortunately limited to the published tributes and to testimonials of those who were his friends and colleagues—but these accounts are literally aglow with the color of this man's personality.

Dr. Leon Menville

For those who, like myself, did not have the opportunity to know Doctor Menville personally, an epitome of his career is in order. He had the advantage of a medical tradition by birth; a third generation physician, the son of a country doctor, he was born in Napoleonville, Louisiana, in 1882. His son, Doctor John Menville, carries on the family tradition in New Orleans. After graduating from Louisiana State University and Maryland Medical College he engaged in private practice with his father in Houma. The purchase of an x-ray machine in 1905, (the new rays had been announced by Roentgen just nine years before) introduced Doctor Menville to the infant art of radiology. With this stimulus, radiology became his major interest and he obtained special training in the new field at the Mayo Clinic. Thereafter, his progress was rapid to a commanding position, locally and nationally, as an outstanding radiologist. A member of the Tulane University faculty from 1919, he served as its Professor of Radiology from 1934 until his retirement in 1948. For ten years he was Director of the Department of Radiology at the Charity Hospital and for many years he was radiologist or consultant at numerous other New Orleans hospitals.

Doctor Menville took an active part in the affairs of the Radiological Society of North America and served as editor of its journal, "Radiology", from 1931 to 1941, when he became President-elect of the Society. His beneficial influence in medical education was effective not only through his interest in undergraduate teaching but also as an early member of the American Board of Radiology. On the more local scene he was an active member of the State Board of Medical Examiners.

It is appropriate to note that one of Doctor Menville's chief investigative in-

* Presented at the Eighty-first Annual Meeting of the Louisiana State Medical Society, May 9, 1961, in New Orleans.

terests, the contrast visualization of the lymphatics, is again being pursued by his former associate, Doctor Joseph Ané, as a research project with his colleagues in the Department of Radiology at Tulane University School of Medicine. For this early original work Doctor Menville received the Gold Medal of the Louisiana Academy of Science in 1934.

This recital of achievements is incomplete without re-emphasis of the remarkable personality which gave him such wide popularity as a speaker and friend in this country and abroad, especially in Latin America.

Doctor Menville was a vigorous expounder of the contributions of radiology to medicine and to humanity. His professional career spanned the period of technical development I am to talk of today—from Roentgen's discovery to television. While the special contribution of diagnostic radiology to medicine is purely technical it is to be hoped that through the example of great physicians like Doctor Menville these technical developments may be used to draw us ultimately closer to our patients as well as to the solution of their problems.

The technical developments that I am going to discuss, together with some of their applications, have been the most important and interesting in diagnostic radiology in the last decade and from their foundation I believe modifications will come that are going to continue to revolutionize the practice of diagnostic radiology in addition to making major contributions in medical teaching and research.

Fluoroscopy

The fluorescence of barium platinocyanide was observed by Roentgen and, in fact, was directly involved in his discovery of the x-rays in 1895. For many years this chemical continued to be employed in fluoroscopy for diagnosis. Subsequently, Michael Pupin, a Professor at Columbia University, employed calcium tungstate for the fluorescent screen, as suggested by Thomas Edison, in one of the first intensification systems enhancing the effect of x-rays on photographic film through the light produced by the fluorescent effect. It is of historical interest that a British engineer very closely associated with the early technical development of radiology in England had made the same suggestion at about the same time; this man, Campbell Swinton, was also intimately connected with early developments in television in Great Britain, and as early as 1908 suggested the elements of cathode ray scanning, which has since become commonplace in all television systems. Campbell Swinton, in fact, described this system in his presidential address before the British Roentgen Society in 1911; the title of this address was, "Electric Vision at a Distance". Subsequently a French radiologic physicist, Dauvillier, was also simultaneously interested in television and in radiologic problems. His early interest is indicated by a television patent in 1915, and in the presentation at the Third International Congress of Radiology in Paris in 1931 of an apparatus in operation for transforming an x-ray image into an optical one by electronic means.

Meanwhile, practical developments had been occurring at a slower pace in fluoroscopy. Thus, the introduction of the zinc-cadmium sulphide yellow-green fluorescent screen by Levy and West in England about 1935 was regarded as a dramatic improvement in fluoroscopy; this screen increased the brightness two-fold and its color is more efficient physiologically.

Application of the early suggestions of men like Campbell Swinton and Dauvillier awaited improvements in optical systems and the availability of intensifying image tubes. Publications by European workers and by Chamberlain and Henry in the United States brought together physical and physiological information which guided and stimulated x-ray and electronic manufacturers in their next big step in brightening the fluoroscopic image. Russell Morgan at Johns Hopkins had much to do with the present day knowledge of application of television techniques in radiology. In this, as in many other fields of medicine, we are only beginning to reap

the benefits of the tremendous, almost explosive, growth of the science and art of electronics of the last two decades.

The present electronic image intensifier tube makes possible visualization of the fluoroscopic x-ray image of patients in lighted rooms, without the necessity of dark adaptation on the part of the observer and at reasonable x-ray dosages. With the addition of television display to the system, great flexibility in the mechanical arrangements becomes possible. The observer is no longer hampered by clumsy viewing systems attached to the already cumbersome fluoroscopic machine with its increasing load of electronic gear. Many observers can view the fluoroscopy in progress at as many sites as is desirable for consultation and teaching. Recording of the progress of the fluoroscopy can be made directly on movie film or now even on video tape as in commercial television programming, albeit an expensive procedure at present.

In our institution we have had experience with a number of different types of commercially available image intensifier tubes and have used them both in clinical practice and in laboratory research. The brightening of the fluoroscopic image with its attendant increases in information came at a time when the art of fluoroscopy was in danger of total eclipse as a result of the emphasis on the attendant radiation hazards. The greatly increased information available from modern image intensifier fluoroscopy together with the somewhat decreased radiation dose required is causing a revival of interest in fluoroscopy particularly for many of the specialized procedures for selective angiography. We have employed, as is now common practice, television presentation of fluoroscopy during heart catheterization so that the procedure can be carried out in a lighted room and with the operating team and students and visitors able to observe the progress of the procedure by x-ray. We have also had some experience with the use of storage television systems whereby single exposures can be displayed for several minutes at a time on the television screen. For procedures where "live" fluoroscopy is not continuously necessary this can result in presenting useful information at a great saving in radiation exposure. We have also presented the x-ray information connected with the endoscopic removal of a foreign body from a laboratory animal with the simultaneous television presentation of the endoscopic view of the foreign body through the medium of the optical system of a photo-bronchoscope.

In 1950, Doctor W. Edward Chamberlain, Emeritus Professor of Radiology at Temple University School of Medicine, combined his long-standing intense interest in stereoscopy and in fluoroscopy in an experimental stereo-fluoroscopy arrangement employing one of the first two image intensifier tubes produced commercially by the Westinghouse Company. We are at present engaged in a project to determine the feasibility of such an arrangement employing presentation of the stereoscopic images on two television monitors which are then viewed with appropriate polaroid glasses. Preliminary results with the apparatus have been encouraging. The apparatus has been tested during heart catheterization in dogs and it appears that when perfected it should facilitate this procedure as well as the removal of opaque foreign bodies endoscopically and otherwise. It remains to be seen whether such an apparatus can contribute materially to the diagnostic value of fluoroscopy in general.

Cineradiographic Techniques

The other major area of progress attributable to electronic advances to which I wish to call attention is the new possibility for detailed physiological studies made possible by the new x-ray movie technique correlated with recordings of the standard accepted physiological parameters. X-ray movies of patients before 1950 required such large x-ray doses that they were impractical. With the image intensifier it is now possible to study patients with reasonable x-ray doses employing cineradiographic techniques

when there is a proper medical indication for such study. Most of the apparatus commercially available today still requires sizable x-ray doses particularly if the study of thicker portions of the body such as the abdomen are in question.

In our hospital practice we have employed the x-ray movie technique particularly in connection with the examination of the gastrointestinal tract and of the heart. The motions of the act of swallowing and of the heart occur so rapidly that there is really no other satisfactory way of completely studying the physiologic activity in progress. Various pressure and sound recordings can be made simultaneously on the film for correlation with the mechanical events in the structures being studied as displayed by the x-ray movie images. Such a correlation is exemplified by one of our laboratory studies which dealt with the regularly observed phenomenon of regurgitant flow of opaque contrast material slowly injected into the left ventricle of dogs through a catheter passing down through the carotid artery and the aorta into the left ventricle. We found that whenever the heart rate slowed sufficiently the diastasis lengthened to permit the backward flow of the opaque contrast material. This normal phenomenon occurring with arrhythmias must be reckoned with in the interpretation of left ventricular angiography with respect to the diagnosis of significant mitral regurgitation. In addition to motion films at 60 frames per second of this normal regurgitant phenomenon the time of occurrence of the regurgitation as visualized in the x-ray movie film was transferred to the standard multi-channel recording paper by means of an x-ray sensitive photoelectric pick-up (electrokymograph) placed in the x-ray beam over the left atrium.

One of the first cineradiographic experimental studies carried out in our laboratory was concerned with the demonstration of the rapid solution of carbon dioxide injected intravenously for the gas contrast visualization of the interior of the heart in experimental animals, a study carried out with Doctors Thomas Durant and Morton Oppenheimer. Subsequently, this technique has found considerable practical clinical application in the demonstration of pericardial effusions, the injection of gas intravenously being made with the patient lying on the left side so that the gas collects in such a way as to outline the lateral border of the right atrium.

A further experimental study which indicates the possible scope of these techniques involves x-ray movie filming at considerably higher speed, at present at about 270 frames per second. Here we use a standard industrial high speed camera that has an optical system at right angles to that used for recording the x-ray image so that an oscilloscope displaying pressure pulses, heart sounds, E.C.G. or etc., can be photographed simultaneously with the image intensifier x-ray image on the 16 mm. movie film. Using this equipment our radiology-physiology research group has studied the distinct differences in the pattern of blood flow between the superior and inferior vena cava in dogs and cats employing droplets of opaque oil as the contrast markers in the blood stream. At present, studies are under way to investigate the differences in the pattern of acceleration of the blood in the dog's aorta before and after varying dagrees of myocardial damage. The ability of the heart to accelerate the blood mass against the peripheral resistance is of course a most sensitive index of myocardial function. In an attempt to keep pace with the "computer age" we are making use of a small computer element which enables us to plot automatically curves of either velocity or acceleration directly from our curves of displacement versus time obtained from the movie films of these rapidly moving droplets in the blood stream.

Studies such as those mentioned, we believe, provide new avenues for obtaining basic information of scientific interest, serve to train us in physiological techniques and concepts and provide the basis

for developing new diagnostic radiologic techniques.

Clinical radiology is a science and art fundamentally based on electronic technology. It is my hope that this brief review has provided not only a glance at the history and present status of the new developments but also, perhaps, a stimulating vision of some of the possibilities of future medical illumination that may be possible through application of Roentgen's rays.

The Influence of Inundation on Health

Stanford E. Chaille, M. D.

1849—In this year occurred the most disastrous overflow which ever afflicted New Orleans, and in the same year an excessive mortality. This was due chiefly to a severe epidemic of cholera, which began and was severest in December 1848. * * *

1856—The September New Orleans Medical and Surgical Journal, reported as follows; "The sea swept over the outlying islands and the depressed littoral of Louisiana, drowning hundreds of its inhabitants and elevating the waters of Lake Pontchartrain, whereby a large district of New Orleans was inundated. * * *

The mortality statistics in the table fail to indicate any unfavorable influence of the flood on health.

* * *

1871—During the spring months, the waters of the Mississippi River, flowing through the crevasse at Bonnet Carre (about 20 miles above New Orleans) found their way into Lake Pontchartrain. * * * The second District has been remarkably healthy during the entire year, notwithstanding the overflow from Lake Pontchartrain which inundated that part of the city lying between the old Carondelet Canal and the New Canal, as high up as Basin Street.

New Orleans M. & S. J. 10:29, (July) 1882.

Surgical Correction of Strabismus

• The author covers thoroughly the causes, the signs and symptoms and the treatment of the groups of this condition.

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STRABISMUS is a condition or conditions in which the visual axes assume a position relative to each other different from that required by the physiological conditions.

It may be divided into two great groups: (1) those due to known cause and (2) those due to unknown cause. To the first group belong (a) those due to paresis or paralysis of one or more of the extrinsic muscles, i.e., paralytic and (b) those due to irregular activity or over-activity of individual muscles or groups of muscles and a subgroup which may be designated as kinetic. To the second group belong (a) those cases which are characterized by the fact that the visual axes, though abnormally directed, retain their relative position in all movements of the eyes; they are therefore termed concomitant. Another subgroup of the second class is (b) cases in which there is latent crossing or heterophoria.

Paralytic Type

Signs and symptoms. (1) Limitation of movement. In paralysis of an ocular muscle the ability to turn the eye in the direction of the normal action of the muscle is lost or diminished. This may be tested for, roughly by holding the patient's head and telling him to follow the movements of the physician's finger.

If the sound eye is covered by a screen, and an attempt is made to fix an object so situated that the paralyzed muscle is brought into play, it will be found that the eye behind the screen deviates more than the primary deviation of the paralyzed eye.

(2) Diplopia. The chief complaint of patients with paralysis of an extrinsic muscle is often that they see double. Diplopia occurs only over that part of the field of fixation towards which the affected muscle or muscles move the eye.

(3) False Orientation. It will be seen from what has already been said that false orientation is a necessary accompaniment of binocular diplopia. Suppose that a patient whose right external rectus is paralyzed shuts his left eye and attempts to fix an object situated towards the right. Let him now quickly strike at the object with his extended index finger. The finger will pass considerably to the right of the object. This is called false projection.

(4) Position of the head.

The patient holds his head so that his face is turned in the direction of action of the paralyzed muscle.

(5) Vertigo.

Vertigo, leading to nausea and vomiting may occur.

Etiology.

Paralysis of ocular muscles may be caused from a lesion situated in any part of the nerve tracts from the cerebral cortex to the muscles. The site may therefore be intracranial or intraorbital.

Ocular paralysis of intracranial origin may be due to affections of the blood vessels i.e., hemorrhage, thrombosis, etc. or to external pressure such as tumors, bloodclots, periostitis, etc.

Other causes are diphtheria, diabetes and other toxic conditions, and injuries.

Paralysis of the external recti is common in cases of intracranial tumors. It may be due to pressure by the anterior inferior cerebellar and internal auditory arteries, which cross its nerve at right

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angles and often lie ventral to it. The nerves are strangulated between the vessels and the edematous and swollen pons. This may also account for the spinal anesthetic cases, and ophthalmoplegic migraine, the third nerve passing between the superior cerebellar and the posterior cerebral arteries.

Injury to and disease of the orbit may affect the nerves of muscles in this situation by rupture, pressure, and inflammation.

The prognosis varies with the cause.

Treatment.

Treat the cause which is found. Diplopia may sometimes be relieved by prisms. Exercising the weak muscle may help at times. Operation is seldom of much worth.

If diplopia is very troublesome and cannot be relieved, the affected eye should be covered or occluded.

Nystagmus

Nystagmus is the term applied to rapid oscillatory movements of the eyes, independent of the normal movements, which are not affected. The oscillations are involuntary. They are usually lateral, but vertical and rotary can occur.

Nystagmus may be congenital or early infantile, or it may be acquired. Those two groups of cases should be carefully distinguished on account of their different pathological foundation. Nystagmus dating from birth or within a few weeks from birth, occurs in congenitally malformed eyes, in albinism, and in eyes with leukoma or in eyes with partial cataracts and in those with macular changes. The cause in these cases is inability to develop normal fixation. Fixation is developed during the first few weeks of life, the eyes being moved aimlessly and independently before it is acquired. Nystagmus is present in total color blindness.

Nystagmus in adults occurs in disseminated sclerosis, disease of the cerebellum and vascular tracts, and of the semicircular canals (i.e., occasionally on syringing the ears.) Friedreick's ataxia, etc. In disseminated sclerosis the movements are generally horizontal and are elicited in the early stages only in extreme lateral positions of the eyes. Cerebellar irritative lesions cause coarse nystagmus towards the side of the lesion and fine nystagmus to the opposite side. Nystagmus may also occur in adults as an "occupation neurosis" the commonest form being coalminer's nystagmus.

In congenital and early infantile nystagmus the patient is wholly unconscious of the movements, since objects do not appear to move. Vision is usually defective in spite of correction of errors of refraction which generally accompany the disease. In some cases of acquired nystagmus in adults, objects appear to move.

The prognosis is good in miner's nystagmus, if the occupation is changed, though recovery is slow. In all other cases it is bad, though it tends to diminish with advancing years. Treatment is therefore palliative, consisting of refraction, wearing smoked glasses in albinism and treating any disease which may be present. Labyrinthine nystagmus occurs in disease of the internal ear, in normal persons by rotation in a specially designed chair or by passing a galvanic current through the head.

Miner's nystagmus occurs chiefly in those who have worked long at the coal face. The patient complains of defective vision, which is worse at night, headache, giddiness, photophobia, dancing of lights and movements of objects.

The essential cause of miner's nystagmus is that there is always poor light and since the area from 10 to 15 degrees around the macula, is used for vision at low illumination, the patient gradually loses his power of fixation and nystagmus occurs. Contributing causes are: ill health, poor illumination and errors of refraction.

The treatment consists in better illumination, treatment of the ill health factor and correction of errors of refraction. If this all fails, the patient should be withdrawn from this type of work.

Concomitant Strabismus

In concomitant strabismus the visual axes, though abnormally directed, retain

their abnormal relation to each other in all movements of the eyes. It differs therefore in this respect from paralytic strabismus, in which the relationship of the visual axes to each other changes with every movement of the eyes in the direction of action of the paralyzed muscles when more than one is affected. The deviation of the visual axes may be convergent or divergent, the former being the more common. In concomitant strabismus one eye maintains fixation while the other is adverted or abverted.

If the fixing eye is tested behind a screen, the deviating eye usually moves outwards or inwards through an angle equivalent to the angle of deviation in order to take up fixation.

At the same time the eye behind the screen moves inwards or outwards through exactly the same angle (secondary deviation). If now the screen is removed it will generally be found that fixaton immediately reverts to the first eye. Such a case is usually termed one of unilateral strabismus. In some cases fixation is still retained by the second eye. If it is so retained for a considerable period, i.e., while the patient blinks several times, the squint is said to be alternating. Inquiry will then generally elicit the fact that the patient sometimes squints with one eye and sometimes with the other.

There is no diplopia in a concomitant squint. The vision in the deviated eye is depressed, while in an alternating squint it is not.

Concomitant strabismus always commences in childhood. It may be manifested after a fright, whooping cough, measles or any other debilitating illness.

The prevailing theory at the present time is that strabismus is due to the defect of the fusion faculty.

In every case of concomitant strabismus the angle of the deviation must be measured, so that the effects of treatment may be accurately observed.

The best way to measure the angle of deviation is by prisms.

Treatment.—The routine treatment of concomitant strabismus in a child is as follows:

1. Record the distant vision of each eye.

2. Test the eyes for the error of refraction, using atropine 1 per cent, either solution or ointment.

3. If the patient is found to have a +1.00 diopter or more of hypermetropia glasses are needed. If glasses correct the deviation no operation is needed.

The patient should start wearing them from the age of two years.

4. If the vision is depressed in the squinting eye, it should be restored as much as possible.

5. The best way to restore the vision is to wear a patch over the eye with the normal vision. The patch should be worn during the hours when the patient is awake. Take it off at night.

Have the patient return in one week and test the vision of each eye. If the vision of the eye under the patch has not been depressed, then have the patient return in two weeks. If the vision in the eye under the patch is not depressed then have him return in one month. Never let a patient wear a patch longer than one month at a time without testing the vision in the eye.

It will usually be found that the vision will improve in the eye with depressed vision. When it returns to normal leave the patch off. Then have the patient return in one month and test the vision of each eye. The eye with depressed vision originally, will usually begin to lose vision again. Then reapply the patch as stated above and use the same schedule of wearing it.

The patient when he has attained the age of eight years usually maintains normal vision from then on.

If after three months of wearing the patch and the vision has not been restored, then it should be abandoned.

6. Orthoptic treatment may be used to try to restore fusion, but it has been my experience that it is of no value.

7. If the patient has a deviation of squint that is thirty prism diopters or greater, it has been my experience that an operation is indicated.

8. The type operation which should be used, is the one with which the surgeon gets the best results.

9. Never let a patient with a squinting eye leave your office without treatment, because the eye will not straighten itself and the eye with depressed vision will not restore its vision.

10. If the eye with the depressed vision is not restored by the age of six to six and one half years, it will never be restored.

References

1. Parsons, Sir John Herbert: Diseases of the Eye. London, J. and A. Churchill.

2. Grimsdale, Harold and Brewerton, Elmore: A text Book of Ophthalmic Operations. Baltimore. William Wood and Company.

3. Spaeth, Edmund B.: The Principals and Practice of Ophthalmic Surgery. Lea and Febiger, Philadelphia.

4. Arruga, H.: Ocular Surgery. Salvat Editores, S.A., Barcelona-Madrid-Buenos Aires-Mexico-Caracas-Bogota-Rio De Janeiro. McGraw-Hill Book Co. Inc., New York-Toronto-London.

5. Paton, R. Townley, Katzin, Herbert M., Stilwell, Daisy: McGraw-Hill Book Company, Inc. New York-Toronto-London.

6. Gray, Leon F., Squint and Its Treatment. New Orleans M. & S. J., 1934.

A New Disease

A California physician who discovered a new disease—love madness—has been experimenting with the person afflicted therewith and has produced the "love parasite," or bicillus micrococcus. This he cultivated up to the twentieth generation, and with the parasites of that generation he inoculated a number of subjects. The inoculation was invariably successful, symptoms of the disease appearing a very short time after the operation. A bachelor, aged fifty, on the first day after the inoculation, had his whiskers dyed, ordered a new suit of clothes and a set of false teeth, bought a top buggy, a bottle of hair restorer, a diamond ring and a guitar, and began reading Byron's poems.

New Orleans M. & S. J. 10:309, (October) 1882.

Application of The Patch Test In Tuberculosis Case Finding

• An interesting report on surveys made in tuberculosis case finding. A 10 per cent error by patch test application is admitted, but for several reasons this method is believed to be best in mass surveys.

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APPROXIMATELY two years ago, those of us who are administering the Tuberculosis Control Program of the Louisiana State Board of Health were faced with making a decision concerning the future use of the mobile x-ray units in tuberculosis case finding among the general population. For quite some time we had been concerned with the mounting costs of such a program in comparison to the declining returns of newly discovered cases of tuberculosis. Further, more and more was being said and written about the possible radiological hazards resulting from indiscriminate use of the x-ray among the general population. Before arriving at a decision concerning the future use of the mobile x-ray units, a mass tuberculin patch test study was planned in one of the southwestern Louisiana parishes to determine if it were practical to use the tuberculin test for screening purposes and the chest x-ray solely as a diagnostic tool in a community tuberculosis case finding program. The area selected for this study was Iberia Parish.

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Chest X-ray Survey

The preceding year, one of the mobile chest x-ray units spent several weeks at various locations throughout Iberia Parish. Small (70 mm.) chest films were taken on any individual 15 years of age or over who presented himself to the mobile unit and requested this service. Six thousand three hundred sixty-eight (6368) small x-ray films were taken during this period.

Interpretation of these films resulted in 188 being reported as suspicious for tuberculosis. However, additional investigation indicated that many of these so-called suspicious cases were old tuberculosis patients or suspects already known to the local health unit. Apparently, many of these individuals have a chest x-ray made whenever given the opportunity, in the hope that eventually someone will tell them that they really do not have tuberculosis and that it was all a mistake. Negative results from 14″ by 17″ follow-up films eliminated another group of the original suspects. In the final analysis, of these 6300-plus films that were taken in Iberia Parish during the 1957 survey, the ultimate result was the detection of only one (1) hitherto unknown case of tuberculosis.

Patch Test Survey

Early in 1958, plans were being laid for the patch test survey in Iberia Parish. Much more time and effort must, of neces-

sity, go into planning a patch testing program than is necessary in planning a chest x-ray survey. This patch test program was sponsored by the Louisiana State Board of Health's Section of Tuberculosis Control, the Iberia Parish Health Unit, the Iberia Parish Medical Society and the Iberia Parish Tuberculosis Association. Moreover, several hundred community volunteers assisted in planning and carrying out the program.

One of the reasons for so much advance planning being necessary was due to the fact that management in industries and business establishments had to be sold on the idea of using the patch test as an initial screening device for their employees, instead of the small chest x-ray film to which they were accustomed. One minor disadvantage of using the patch test in industries and business establishments, is that employees must be absent from work on two occasions on separate days—the first time when the patch is applied and again when it is read. However, this presented no great difficulty in Iberia Parish, since the industries and business establishments cooperated practically 100 per cent.

During the course of twelve weeks, a total of 9564 patch tests were applied. This is a 50 per cent increase over the number of people who were x-rayed by the mobile x-ray unit when it visited Iberia Parish the year before. Approximately one-third of this total were children under 15 years of age who ordinarily would not be x-rayed by the mobile x-ray unit.

When dealing with large numbers of people such as this, there will be a certain relatively large percentage of individuals who do not complete the test. Of the 9564 patch tests applied in this study, 1287 (13.5 per cent) were not completed for various reasons (Table 1). Failure to return for the reading was by far the most frequent reason for incompletion.

TABLE 1
NUMBER OF PATCH TESTS COMPLETED COMPARED TO NUMBER OF TESTS INCOMPLETED

	Number	% of Total
Patch tests completed and read	8277	86.5
Absent or did not return for reading	818	8.6
Patch fell off	286	3.0
Wet patch	9	0.1
Incomplete—reason not recorded	174	1.8
	9564	100.0

The overall positivity rate for the 8277 completed tests was 12.9 per cent. Table 2 shows the positivity rates for various age groups. A startling and perplexing observation that is immediately apparent is that 5.4 per cent of the children five years of age and under showed a positive reaction; whereas in the age group 6 to 12 it was only 2.0 per cent and from 13 to 19 it was only 3.8 per cent. A possible explanation for this difference is that this age group represents the preschool chil-

TABLE 2
RESULTS OF PATCH TESTS BY AGE GROUPS

Age Group	No. of Tests	% of Total	Neg.	Pos.	% Positive
5 yrs. & under	927	11.2	877	50	5.4
6-12	1747	21.1	1713	34	2.0
13-19	1194	14.4	1149	45	3.8
20-29	964	11.7	856	108	11.2
30-39	1234	14.9	951	283	22.9
40-49	1068	12.9	802	266	24.9
50-59	615	7.4	441	174	28.3
60-69	241	2.9	181	60	24.9
70-79	71	0.9	59	12	16.9
80 and over	9	0.1	8	1	11.1
Age not stated	207	2.5	169	38	18.3
TOTALS	8277	100.0	7206	1071	**12.9**

dren on whom the tests were done mostly in health unit clinics and children of those families about whom the public health nurses and other volunteer workers were particularly concerned and possibly suspected the presence of tuberculosis in the families, therefore making sure that these children were tested. Consequently, included in this age group there is perhaps a much larger percentage of individuals in the lower socio-economic groups than in the 6 to 12 and the 13 to 19 year age groups, because in these latter two categories the patches were applied to a cross section of children in the schools.

It will also be noted that the highest degree of positivity is seen in the 50 to 59 year age group, where 28.3 per cent showed positive reactions. Thereafter the percentage of positivity tends to decrease with age. Although the number of tests applied in the older age groups was small, there is a definite trend towards a decline in positivity. This may indicate that individuals who have been infected with the tubercle bacillus tend to die at an earlier age than those who have never been so infected.

Table 3 shows the per cent of positivity according to certain selected occupational and professional categories.

TABLE 3
PERCENTAGE OF POSITIVITY ACCORDING TO OCCUPATION
(Patch Tests)

	No. of Tests	No. Positive	% Positive
Bus Driver	67	15	22.4
Cafeteria Worker	140	30	21.4
Clerical	397	83	20.9
Domestic	35	6	17.1
Housewife	976	171	17.5
Janitor or Porter	59	18	30.5
Laborer	977	288	29.5
Maintenance Worker	223	43	19.3
Management	133	37	27.8
Professional	63	16	25.4
Teachers	369	52	14.1
Retired	28	6	21.4
Salt Mine Worker	579	193	33.3

Salt Mine Workers

Salt mining is an industry peculiar to this area of the state. Iberia Parish has at least four large salt mines in the southern part of the parish. Because of the high rate of positivity among these salt mine workers (33.3 per cent), it was decided to follow up immediately with the intradermal tuberculin test, using the intermediate strength PPD. The comparative results are shown in Table 4.

TABLE 4
COMPARISON OF PATCH AND INTRADERMAL TESTS IN SALT MINE WORKERS

Mine	Number of Workers Tested	Positive Reactions			
		Patch		Intradermal	
		No.	%	No.	%
A	110	43	39.1	51	46.3
B	111	35	31.5	52	47.3
C	126	29	23.0	41	32.5
D	232	86	37.1	116	50.0
TOTAL	579	193	33.3	260	44.9

It is to be noted that in each instance the intradermal test gave a somewhat greater percentage of positivity. The intradermal tests resulted in an over-all positive reaction rate of 44.9 per cent compared to 33.3 per cent positive reactors to the patch tests. However, the follow-up among all of those salt mine workers who showed a positive reaction to either or both tests resulted in not one single case of active tuberculosis being discovered.

These salt mine workers and their families live in the southern part of Iberia Parish where the salt mines are located and have relatively little intercourse with the outside world. Most of these people continue to live in that area and work in the mines, as their ancestors did before them. It is a very stable population with very little labor turnover. It was learned that two or three known cases of active tuberculosis had occurred among these people in the past, but they have long since either died or moved away from the area. Apparently these cases infected a large percentage of this closed population, but luckily there seem to be no active cases at the present time.

Comparison of Patch and Intradermal Tests

Because of the discrepancies in results between the patch and the intradermal tests that were done among the salt mine

workers, one of us (W.W.C.) undertook a comparative study by doing concurrent patch and intradermal tests on known tuberculosis patients in a state tuberculosis hospital. Patch and intradermal tests were done on 124 patients (63 white and 61 colored) who were proven to have tuberculosis, either by culture or by biopsy at surgery.

The results are shown in Table 5. The

TABLE 5
COMPARISON OF PATCH AND INTRADERMAL TESTS IN PATIENTS KNOWN TO HAVE TUBERCULOSIS

Number of Positive	First Strength PPD	Intermed. Strength PPD	Vollmer Patch Positive	Vollmer Patch Negative
95	+		83	12
14		+	12	2
6	+	+	5	1
6	—	+	5	1
2	—	—		2
1		—		1
124				

first three horizontal lines of Table 5 account for 115 patients who were positive to either the first strength PPD, the intermediate strength PPD, or to both. Of these 115 patients, 100 gave a positive reaction to the Vollmer and 15 gave negative reactions. Six (6) patients were negative to the first strength PPD but showed a positive reaction to the intermediate strength. Five (5) of these patients gave a positive reaction to the Vollmer and one a negative reaction. A total of 3 patients known to have tuberculosis gave negative reactions to the first and intermediate strengths of PPD, or to the intermediate strength alone, and all 3 of these patients likewise gave negative reactions to the Vollmer. Of these 3 patients, 1 was old and debilitated and 2 were moribund.

Undoubtedly, the intradermal tuberculin test is more sensitive than the Vollmer patch test and should always be used in diagnostic work. However, we feel that the patch test, when used as a tool in a mass survey for tuberculosis case finding, is entirely satisfactory for the following reasons:

(1) Because of its ease of application, many more people can be reached with the patch test.

(2) It requires no technical skill for its application.

(3) Enough material to do patch tests on many hundreds of people can easily be carried into the field in a small package, in comparison to the amount of equipment (i.e., sterile syringes and needles, etc.) that would be needed to do a similar number of tests when the intradermal is used.

(4) The "fear of the needle" keeps many people from having an intradermal test done, whereas they would very readily consent to a patch test. For the foregoing reasons we believe that, even though there may be a certain degree of inaccuracy in the patch test, it is more than offset by its wider applicability to greater numbers of people in a general survey and therefore results in the finding of more tuberculosis. To emphasize this, the results of the patch test survey that was done in Iberia Parish are summarized herewith.

Results of Follow-up

Of the 1071 patches that were interpreted as being positive, subsequent follow-up by x-rays and clinical studies resulted in the finding of 4 previously unknown cases of tuberculosis in adults (1 in a patient out of the state), plus 1 case of active pulmonary tuberculosis of the reinfection type in a child under five years of age. Furthermore, 16 cases of primary tuberculosis in children were discovered and these children were put on prophylactic antimicrobial drugs. Nine (9) individuals were placed under observation who had old, but apparently inactive, cases of tuberculosis. Seven (7) cases of other pathology were reported from the follow-up x-rays. Of this latter group 2 patients were placed under private medical care for diseases the presence of which had been previously undetected. It should be repeated here that when the mobile x-ray unit visited Iberia Parish the year preceding this patch test survey, more than 6300 small films were taken, which lead to finding only one (1) previously unknown case of active tuberculosis.

There is a brief but interesting story concerning the one (1) case of active tu-

berculosis that was discovered in a patient outside of the state. A very young child gave a positive reaction to the Vollmer patch, whereas the older siblings and parents were all negative. This puzzled the public health nurses so they pursued the problem from an epidemiological approach. Further questioning of the family brought out the fact that the maternal grandmother, who resides in another state, had visited this family following the birth of the youngest child and took care of the baby while Mother was regaining her strength.

A letter was dispatched to the health department of the other state telling of our suspicions, and in due course we received a return letter of thanks saying that Grandmother was investigated, that she was an active case of tuberculosis and, furthermore, that she had not been known previously to the health department of the other state. This case would not have been found by an x-ray survey.

Conclusions

After analyzing the foregoing studies, the following conclusions were made:

1. The tuberculin patch test is less sensitive than the intradermal tuberculin test.

2. The ease of application of the patch test allows many more people to be tested and this more than offsets its lesser degree of sensitivity.

3. Tuberculin testing was more productive as far as finding new cases of tuberculosis was concerned than the mass chest x-ray survey.

4. Tuberculin testing offers a better medium for health education through personal contact than does the mobile x-ray unit.

5. Individuals become more concerned over a positive tuberculin reaction than on receiving an x-ray report of suspected tuberculosis, and therefore are more eager to cooperate in the proper follow-up.

6. Studies now in progress evaluating a tuberculin test which combines the sensitivity of the intradermal test with the ease of application of the Vollmer, such as the Heaf test and its modifications, should be commended.

Discussion

Dr. Maurice Campagna (New Orleans): There is, and has been, a good deal of controversy as to the value of the Vollmer patch test. Most of the discussion is centered on the accuracy of the test in relation to the accuracy of the intradermal PPD.

The importance of the discussion, however, has been mostly academic with the pros and cons making statements according to their beliefs. None of this serious opposition has ever been based on actual comparative statistical studies. A close analysis of any attempt at comparative studies quickly reveals that there actually is no method whereby the intradermal and the supracutaneous patch test can be reliably compared.

If known cases of tuberculosis are skin tested by the two methods, there is a consistent difference of 10 per cent in the accuracy of one when compared with the other. This observation has been noted repeatedly. I for one found a 10 per cent error in the Vollmer patch test as far back as 1945, when Vollmer was first introduced in the New Orleans Health Department Tuberculosis program.

I have never, to any degree of consistency, been able to determine accurately that the Vollmer patch test gives an appreciable number of false positives. Sporadically, we find a patient who ultimately is not found to have tuberculosis but who gives a false positive. This is true of the PPD as well as the Vollmer. There is not, to my knowledge, an acceptable method of determining whether the Vollmer is wrong when a positive reaction is recorded except by comparing it with the results of the PPD on the same individual. It is questionable if the PPD can be relied on as a yardstick of accuracy under the circumstances.

We find inaccuracy and inconsistency in technique and individual interpretation which will vary within wide ranges. I am not by any means condemning the PPD nor do I feel it should be replaced by the Vollmer. I do, however, feel that until some other proven accurate and simple method of skin testing comes along, the Vollmer patch test has an important field of usefulness in the tuberculosis case finding program.

If it were not for the ready acceptance of skin testing with the Vollmer patch test, in recent years the case finding program would have collapsed, when the State and City Health authorities decided that there was some justification in discontinuing the mass chest x-ray in the light of the publicity given to the danger of man-made radiation. Also the genetic implications of direct radiation has been a problem in

school survey work. This problem has not proven insurmountable with the utilization of the readily acceptable Vollmer patch test in the 18 years and under group of our population.

One of the biggest objections we have encountered in recommending the Vollmer to the professional group has been the idea that the patch does not stay on and that in industrial workers it is difficult to keep the arm clean.

In the pilot study which I supervised in New Iberia we did not find this a great problem and in this paper presented by Dr. Coulter and associates, the percentage of unsatisfactory readings because of the patch dropping off (3 per cent) is consistent with findings in other similar studies (Table 1). I believe that 86.5 per cent completed readings is a good percentage and it is certainly comparable to the percentages in studies with the PPD.

Table 2, in my opinion, reflects the accuracy of the patch test. Were it true that the Vollmer gives false positives, I believe the figures of 12.9 per cent would be much higher. This 12.9 per cent is certainly in line with percentages of positives in a cross section of the population in our area.

Table 4 demonstrates the opinion of those who admitted a 10 per cent error when a Vollmer is compared with a PPD.

A brief review of statistical figures shows that in the New Orleans area in 1959—8,000 Vollmer patch tests resulted in 1,498 positives recorded (suspects). In the same year the combined 70 mm. mass surveys conducted by Charity Hospital, the Bureau of Tuberculosis Control—stationary unit, totaling 61,851, revealed 2,093 suspects. The Vollmer suspects were 1 to 5.5. The 70 mm. suspects were 1 to 30.

In New York, in 1958, the authorities conducted a survey using the Heaf test. Out of 58,370 submitting to this test 11 cases of tuberculosis were found for a percentage of .018. In 1959, the 70 mm. case finding program in the New Orleans area gave a yield of .084 and the Vollmer patch test gave a yield of .024. This would indicate a greater yield in the Heaf test than the Vollmer. However, it also shows that the Vollmer patch test proved superior to the 70 mm. case finding program. We believe it is premature to favorably accept the figures submitted by New York on the results of the Heaf test until further studies indicate that this test is used on a cross section of the population and not on a high incidence group.

In my opinion, figures clearly indicate that with the use of the Vollmer, case finding programs can be kept alive. Without it we would have nothing to inspire and stimulate the interest of the public programs designed to find tuberculosis with the cooperation of the general population.

I would like to emphasize that the subject of this discussion does not imply that the Vollmer patch test is a diagnostic tool. It does have, however, considerable value in case finding and has certain qualities which lend themselves more towards arousing the interest of the public than has simply the x-ray alone.

The Antihypertensive Effect Of Guanethidine Sulfate*

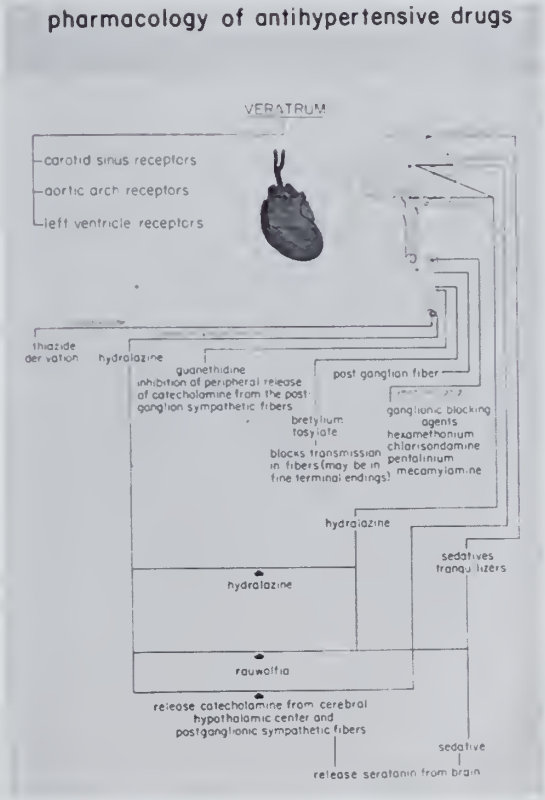
DISCUSSION

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Dr. Dupuy and Dr. Signorelli should be congratulated on their unbiased approach to the evaluation of antihypertensive drugs. The L.S.U. Hypertension Clinic, under their supervision, has produced numerous studies of the many drugs which the pharmaceutical industry has made available. Certainly this report speaks very favorably for guanethidine as an antihypertensive agent. Nineteen out of 25 patients showed initial improvement while 23 out of 25 patients had a sustained response to this agent.

It should be emphasized also that in this study guanethidine alone was used. It is possible that had it been combined with other antihypertensive agents the results would have been even more favorable. We have used guanethidine in a smaller private series of 7 patients with quite similar and gratifying results. It should also be noted that its side effects are certainly minimal. Because of this and its efficacy, guanethidine is fast usurping the place of the ganglionic blocking agents in the treatment of severe hypertension. Caution should, however, be voiced in the use of these potent drugs in patients with renal insufficiency, recent myocardial infarctions, myocardial ischemia, angina, and insufficiency of the carotid or basilar systems. In these a profound drop in blood pressure might result in respectively uremia, a myocardial infarction or a cerebrovascular accident.

Although this study was designed to demonstrate the effectiveness of guanethidine alone, the present trend is to utilize a number of drugs in small amounts so as to obtain the maximal antihypertensive response with the least undesirable effects. To this goal the pharmaceutical chemists have developed a vast armamentarium of agents which attack the problem of hypertension at numerous sites of action (Figure 1). The veratrum alkaloids [1, 2] stimulate the carotid sinus, aortic depressor and left ventricular receptors causing reflex depression of the vasomotor center. The rauwolfia alkaloids [2] are mild sedatives. They release serotonin from the cerebral cortex, as well as liberate catecholamines from central hypothalmic and vasomotor centers. They also cause the release of catecholamines from the postganglionic nerve fibers.



* Discussion of paper by Drs. R. W. Ziegler, J. J. Signorelli, and H. J. Dupuy, presented at the Eighty-first Annual Meeting of the Louisiana State Medical Society, May 10, 1961, and published in the June 1961 issue.

Hydralazine [2] causes dilatation of the constricted vascular muscle and, in addition, depresses the outflow of sympathetic impulses from the hypothalmus and vasomotor center within the medulla. The ganglionic blocking agents [1] block the transmission of impulses through the sympathetic ganglia, thus reducing total peripheral resistance. Of these, hexamethonium and pentolinium simply compete with acetyl choline. Mecamylamine has, however, an entirely different mode of action. It does not simply compete with acetylcholine. Rather, it rapidly diffuses into cells and thus modifies the response of organs to this agent. Mecamylamine reduces the output of acetylcholine from a strip of eserinized muscle. It also acts on the central nervous system, intestine and heart. The injection of mecamylamine through a right atrial catheter into dogs produces a fall in cardiac indices and carotid pressures without significant change in systemic or pulmonary resistance.[3] The thiazide derivatives cause an increased excretion of sodium, potassium, and water. It was originally believed that the antihypertensive effect resulted from the decreased blood volume which ensued.[4] Subsequent studies [5] have shown that the blood volume is restored during chronic administration. Thus the original postulate seems unlikely. It is considered more probable that the antihypertensive action of the thiazides is related to the electrolyte changes which are induced at the local arteriolar level.[2] This, however, remains to be proven. Two compounds are known as postganglionic blocking agents. They are bretylium tolysate and guanethidine. The former [6, 7] seems to block the transmission of nerve impulses in the postganglionic nerve fibers or the fine terminal endings. While guanethidine [8, 9] inhibits the peripheral release of catecholamines from the postganglionic sympathetic nerve fibers.

It would seem that the ideal antihypertensive agent has not as yet been developed. A drug is needed which would be effective in severe as well as mild hypertension and not be wrought with the postural changes of the ganglionic and postganglionic blocking agents. It should be just as effective in the supine as the upright posture and have a minimum of undesirable side effects.

In closing, may I again express my sincere congratulations to Dr. Signorelli and associates for their unbiased evaluation of a very promising drug.

References

1. Edwards, J. C.: Management of Hypertensive Diseases, The C. V. Mosby Co., St. Louis, 1960.

2. Brest, A. N., and Moyer, J. H.: Current Status of Drug Therapy and Choice of Drugs in the Treatment of Hypertension, Progr. Cardiov. Dis. 3:350, 1961.

3. Mauck, H. P., Jr., Freund, J. and Porter, R. R.: Acute Effect of Mecamylamine on the Hemodynamic Changes in Dogs, Circulation 16:914, 1957 (abst.)

4. Freis, E. D.: The Effects of Salt and Extracellular Fluid Depletion on Vascular Responsiveness with Particular Reference to Chlorothiazide, Proc. Council High Blood Press. Res., vol. 7, 1958.

5. Lauwers, P.: Mechanisms of Action and Use of Chlorothiazide as an Antihypertensive Agent, Int. Rec. Med. 172:530, 1959.

6. Conway, J.: Clinical Pharmacology of Bretylium Tosylate; Preliminary Observations, Ann. N. Y. Acad. Sci. 88:956-963, Oct. 11, 1960.

7. Freis, E. D., Sugiura, T. and Liptak, D.: Selective Inhibition of the Sympathetic Nervous System in Man with Bretylium Tosylate, a New Antihypertensive Agent, Circulation 22:1997, 1960.

8. Richardson, D. W. and Wyso, E. M.: Human Pharmacology of Guanethidine, Ann. N. Y. Acad. Sci. 88:944 (Oct. 11) 1960.

9. Richardson, D. W., Wyso, E. M., Magee, J. H., and Cavell, G. C.: Circulatory Effects of Guanethidine, Circulation 22:184, 1960.

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Editorial

The Kefauver-Celler Bill Would Hamper The Pharmaceutical Industry

In keeping with the socialistic pattern of legislation advocated by the present Administration, the Kefauver-Celler Bill (S. 1552, H.R. 6245) has been put before the Congress and hearings are now in process. If made into law, this Bill would affect profoundly the operation of the pharmaceutical industry and, in consequence, would have a far reaching effect on the welfare of American Medicine.

The Bill should be opposed vigorously by all physicians on two general principles.

The first feature which makes it objectional is that it would create a powerful bureau of the government, in a position to dominate and direct the most intimate affairs of pharmaceutical manufacturers. The Bill has in it potentiality for controlling of the size of corporations and, possibly, price fixing. The power to withhold a drug from the market in which the decision is based on a matter of opinion would produce an empire with far-reaching power. In other words, bigger government and smaller citizen.

The effects of the Bill on the quality and property of drugs and its ultimate effect on the practice of medicine are of profound importance. The Bill proposes to turn over to the Department of Health, Education, and Welfare and the Food and Drug Administration the responsibility (1) for relaying of drug information to physicians, (2) the selecting of names of new drugs, and (3) deciding whether a drug is of value in the treating of human ills.

It also proposes an alteration in the patent laws, which in effect would mean that after three years the value of the patent to the owner would be, for practical purposes, gone.

In regard to the relaying of information to physicians, this has been and continues a concern of the American Medical

Association. Over a period of years various methods have been pursued by the AMA with obvious benefit to all concerned. Recognizing, however, that the problem has become more difficult, the AMA is in the process of putting into operation an expanded program, in cooperation with the pharmaceutical manufacturers and their association. It will include submission by the manufacturers of their pharmacologic, toxicologic, and clinical data. Analysis by the AMA of this and other data will ensue. Periodic publication by the Journal and by the New and Nonofficial Drugs of information concerning the uses, dosage forms, side effects and hazards of drugs permitted to go on sale by the Food and Drug Administration will make available to the physician whatever is known on a given topic.

This program for dissemination of information is supported financially by the American Pharmaceutical Association, the United States Pharmacopeia, and the AMA, and is directed by a joint committee of the participating groups.

In regard to the names of drugs, it is felt by those with experience in this field that it should be a matter—as it is now—to concern the AMA and then the producer of the drug. When a suitable name is arrived at, the information is sent to other interested parties, which include the World Health Organization, the U. S. Pharmacopeia, the National Formulary and the British Pharmacopeia Commission for any comments that they may wish to make.

It is also felt that the custom of providing a generic name, which is a general type title for the drug, and also, the manufacturer's trade name, should be continued.

Contrary to what the critics may say, the trade name is a protection to the manufacturer. It increases the ultimate economy of his business operations, and also, in opposition to current criticism, only adds about 5 per cent to the cost of the drug to the consumer.

In the third phase of the effect of the proposed legislation, that is, deciding whether a drug is valuable in treating human ills, the opposition of the profession is even more important than in regard to the two just covered. At present, the Food and Drug Administration has the responsibility of determining the purity and safety of a new proposed drug. It can prevent the marketing of useless or dangerous drugs. It can remove a drug from the market. With this provision the present law is operating satisfactorily. Under the proposed law, "patents could not be granted for any molecular or other modification of any patented or unpatented drug or for the combination of two or more drugs unless: (a) the Patent Commissioner has determined that the change made by the modification or combination would not have been obvious to a person having ordinary skill in the development of drugs and (b) the Secretary of Health Education, and Welfare has determined that the therapeutic effect of the modification or combination is significantly greater than the drug or drugs in their original state."

The danger in this far-reaching provision is obvious. The only satisfactory way in which the efficacy of a drug can be determined is the cumulative clinical experience of the American physician in the use of the drug. Only the physician has the knowledge, ability, and responsibility to make a decision as to what drug is best for a particular patient.

An additional feature of the bill in regard to change in patent laws would deprive the manufacturer of a successful drug of the fruits of his research. In so doing it would dry up initiative, retard investigative procedures, and hamper the contributions the pharmaceutical houses have made to the advancement of American medicine.

Of the top twenty-five drugs most frequently prescribed by physicians today, that is, the therapeutically most useful drugs, six are combinations. Of the remaining nineteen, twelve were born in the laboratories of the U. S. pharmaceutical

industry. One each was discovered in Yale and Oxford, and the other five came from the competing pharmaceutical industries in Germany, France, and Austria.

American medicine today has the best drugs it ever had, and has the best in the world. The pharmaceutical industry is indispensable and an active factor in the production of these drugs. It should not be hampered by socialistic legislation.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

PARTIAL REPORT ON ACTIONS OF THE HOUSE OF DELEGATES AMERICAN MEDICAL ASSOCIATION 110th ANNUAL MEETING

June 25-30, 1961

New York City

Osteopathy, medical discipline, communications, surgical assistants, drug legislation, general practice residencies, relations with allied health professions and services, and poliomyelitis vaccine were among the major subjects covered by 115 resolutions and 28 reports acted upon by the House of Delegates at the American Medical Association's 110th Annual Meeting held June 25-30 in New York City.

Dr. George M. Fister of Ogden, Utah, member of the AMA Board of Trustees and previously a member of the House of Delegates, was named president-elect of the Association. Dr. Fister will become president at the June, 1962 annual meeting in Chicago, succeeding Dr. Leonard W. Larson of Bismarck, North Dakota, who assumed office at the Tuesday night inaugural ceremony in New York.

The AMA 1961 Distinguished Service Award was voted to Dr. Walter H. Judd of Minneapolis, physician and member of Congress, for his contributions as a medical missionary, humanitarian and statesman devoted to world peace.

Total registration through Thursday, with half a day of the meeting still remaining, had reached 56,315, including 22,681 physicians.

Osteopathy

In considering a report of the Judicial Council and three resolutions on the subject of osteopathy, the House of Delegates agreed with the intent of the report and resolutions, but adopted the following statement of AMA policy:

"1. There can never be an ethical relationship between a doctor of medicine and a cultist, that is, one who does not practice a system of healing founded on a scientific basis.

"2. There can never be a majority party and a minority party in any science. There cannot be two distinct sciences of medicine or two different, yet equally valid systems of medical practice.

"3. Recognition should be given to the transition presently occurring in osteopathy, which is evidence of an attempt by a significant number of those practicing osteopathic medicine to give their patients scientific medical care. This transition should be encouraged so that the evolutionary process can be expedited.

"4. It is appropriate for the American Medical Association to **reappraise its application of policy** regarding relationships with doctors of osteopathy, in view of the transition of osteopathy into osteopathic medicine, in view of the fact that colleges of osteopathy have modeled their curricula after medical schools, in view of the almost complete lack of osteopathic literature and the reliance of osteopaths on and use of medical literature, and in view of the fact that many doctors of osteopathy are no longer practicing osteopathy.

"5. Policy should now be applied individually at state level according to the facts as they exist. Heretofore, this policy has been applied collectively at national level. The test now should be: Does the individual doctor of osteopathy practice osteopathy, or does he in fact practice a method of healing founded on a scientific basis? If he practices osteopathy, he practices a cult system of healing and all voluntary professional associations with him are unethical. If he bases his practice on the same scientific principles as those adhered to by members of the American Medical Association, voluntary professional relationships with him should not be deemed unethical."

Medical Discipline

In a major move designed to strengthen the profession's disciplinary mechanisms, the House approved the conclusions and recommendations of the Medical Disciplinary Committee, with only three word changes. The House discharged the committee with thanks and commendation and directed that its functions be assumed as a continuing activity of the Judicial Council.

One recommendation suggests that "The by-laws of the American Medical Association be changed to confer original jurisdiction on the Association to suspend or revoke the AMA membership of a physician guilty of a violation of the Principles of Medical Ethics or the ethical policy of the American Medical Association regardless of whether action has been taken against him at local level."

Another "encourages and urges that each state association report annually to the American Medical Association all major disciplinary actions taken within its jurisdiction during the preceding calendar year."

The report urged state and county medical societies to utilize grievance committees as "grand juries" to initiate action against an offender so as to obviate the necessity of making an individual member of a medical society complain against a fellow member.

The House suggested that each medical school develop and present a required course in ethics and socio-economic principles, and that each state board of medical examiners include questions on ethics and proper socio-economic practices in all examinations for license.

The report concluded with a recommendation that "American medicine at the national, state and local level maintain an active, aggressive and continuing interest in medical disciplinary matters so that, by a demonstration of good faith, medicine will be permitted to continue to discipline its own members when necessary."

Communications

Acting upon four resolutions related to the Association's public relations program, the House adopted a substitute resolution directing the Speaker of the House of Delegates to name seven elected members of the House as a special committee "to study and continually advise the Board of Trustees on the broad planning and coordination of all phases of communications of the American Medical Association, so that the public and the members of the medical profession are properly and adequately advised of the policies and concern of the medical profession with respect to all phases and aspects of medical care for all people."

The House agreed with a reference committee opinion that "we have a very adequate Division within the A.M.A. capable of implementing any program of communications." The approved committee report also said that "the Communications Division of the A.M.A. needs the active support and cooperation of the House and of all members of the Association."

Surgical Assistants

In considering a Board report and two resolutions on the subject of surgical assistant's fees, the House approved the following five basic principles developed by the Judicial Council and the Council on Medical Service:

"1. Each member of the A.M.A. is expected to observe the Principles of Medical Ethics in every aspect of his professional practice.

"2. Each doctor engaged in the care of the patient is entitled to compensation commensurate with the value of the services he has personally rendered.

"3. No doctor should bill or be paid for a service which he does not perform; mere referral does not constitute a professional service for which a professional charge should be made or for which a fee may be ethically paid or received.

"4. It is ethically permissible for a surgeon to employ other physicians to assist him in the performance of a surgical procedure and to pay a reasonable amount for such assistance.

"This principle applies whether or not an assisting physician is the referring doctor and whether he is on a per-case or full-time basis. The controlling factor is the status of the assisting physician. If the practice is a subterfuge to split fees or to divide an insurance benefit, or if the physician is not actually employed and used as a bona fide assistant, then the practice is contrary to ethical principles.

"5. Under all other circumstances where services are rendered by more than one physician, each physician should submit his own bill to the patient and be compensated separately."

Efficacy of Drugs

The House strongly endorsed a Board report which pointed out the problems that would result from amending the Food, Drug and Cosmetic Act to authorize the Food and Drug Administration to determine the efficacy, as well as the safety, of a prescription drug prior to the approval of a new drug application. The A.M.A. will oppose such legislation before the Kefauver Committee, the report pointed out, on the basis that "a decision with respect to the effectiveness of drugs is dependent upon extended research, experimentation and usage." The House agreed that vesting such authority in the Food and Drug Administration would operate to limit research, the marketing of drugs and the exercise of discretion by the medical profession. "The marketing of a relatively useless drug is

infinitely less serious than would be the arbitrary exclusion from the market of a drug that might have been life saving for many persons," the House declared.

General Practice Residencies

Eight resolutions were introduced on the subject of creating new two-year residency training programs in general practice. The House agreed that there appears to be a need for such programs for those individuals who desire more experience in obstetrics and surgery than may be available in the currently existing Family Practice Program. It approved a substitute resolution directing the Council on Medical Education and Hospitals to consider for approval other two-year programs in general practice which incorporate experience in obstetrics and surgery. The Council will review these programs on the basis of their individual merits and conduct a long-range evaluation of the new programs as well as the previously established Family Practice Programs.

Relations With Other Health Professions and Services

The House considered a Board report and twelve resolutions dealing with various aspects of medicine's relationships with allied health professions and services, including optometry. The Board report recommended the creation of a new A.M.A. Council to handle all the problems involved. The House, however, accepted a reference committee suggestion for establishment of a new Commission to Coordinate the Relationships of Medicine with Allied Health Professions and Services. The Commission will be composed of seven members appointed by the Speaker of the House. Subcommittees, composed of from three to five members selected by the Commission from lists of names submitted by the scientific sections, will consider problems in specific areas. The Commission will correlate and catalogue the reports of the subcommittees and will act as liaison agent between the subcommittees and those A.M.A. Councils where there may be overlapping interests.

Polio Vaccine

The House approved a report by the Council on Drugs on the present status of poliomyelitis vaccination in the United States and urged that it be made available to all physicians through the most effective communications media. The report clearly outlines procedures recommended for implementation of mass vaccination with the new oral vaccine when it becomes available. The House complimented the Council on its "clear and succinct statement on the initiation of the new campaign which will be needed to promote the new vaccine." The House agreed that the report provides the practicing physician with a reliable series of answers to the many questions which will arise during the changeover from Salk vaccine to oral vaccine. The report emphasizes, however, that "physicians should encourage, support and extend the use of Salk vaccine on the widest possible scale at least until the oral polio-virus vaccines currently under development and clinical trial become available."

Miscellaneous Actions

In dealing with resolutions and reports on a wide variety of other subjects, the House also:

Approved the **"Guides to Physician Relationships with Medical Care Plans,"** submitted by the Council on Medical Service, with these two changes: deletion of item 5 under "Responsibilities of the Medical Society," which said "To recognize that properly qualified physicians employed by, or otherwise serving, medical care plans should not be denied professional rights and privileges because of their service to such plans," and addition of a new item 1 under "Responsibilities of the Medical Care Plan," which reads: "To provide the beneficiary of the plan with free choice of qualified physicians";

Reaffirmed its support of the **Kerr-Mills** program for the needy and near-needy aged and its opposition to any legislation of the **King-Anderson** type, declaring that the medical profession "will not be a willing party to implementing any system which we believe to be detrimental to the public welfare";

Approved a markedly expanded **drug information program** submitted by the Board of Trustees and the Council on Drugs;

Adopted the final report of the **Special Study Committee** of the Council on Medical Education and Hospitals and recommended that copies be sent to all medical school deans in the United States; Decided to hold the **1963 Clinical Meeting** in Portland, Oregon, instead of Las Vegas Nevada, as recommended by the Board;

Approved a plan by the new A.M.A. Department of International Health to cooperate in the recruitment of volunteer physicians for emergency medical service in **foreign mission fields;**

Agreed to an increase of $20 in the annual A.M.A. **membership dues** to be implemented over a period of two years: $10 on January 1, 1962, and $10 additional on January 1, 1963;

Discontinued the Association's **General Practitioner of the Year** award;

Opposed legislative and administrative mandates which would compel physicians to prescribe drugs, or require pharmaceuticals to be sold, by **generic names** only;

Reaffirmed the Association's opposition to compulsory inclusion of physicians under the **Social Security** system;

Urged immediate legislation that will provide strong economic motivation for the construction and maintenance of **fallout shelters;**

Disapproved two resolutions which would have discontinued the scientific activities at the **Clinical Meeting;**

Urged **immunization campaigns** against both tetanus and influenza, and

Asked state and county medical societies to give full support to the **First National Congress on Medical Quackery** to be jointly sponsored next October 6-7 in Washington, D. C., by the A.M.A. and the Food and Drug Administration.

Opening Session

At the opening session on Monday, Dr. E. Vincent Askey of Los Angeles, retiring A.M.A. president, challenged physicians and medical organizations to re-examine their own efforts to strengthen and improve medicine, and he warned against defeatism and failure to accept personal responsibility for answering criticisms. Dr. Larson, then president-elect, called on the profession to strengthen methods of self-discipline in both the state and county societies, adding that physicians must be concerned with improper or incompetent practice and unethical actions of all kinds. The 1961 Goldberger Award in Clinical Nutrition was presented to Dr. Frederick J. Stare, chairman of the Department of Nutrition at Harvard Medical School.

Inaugural Ceremony

Dr. Larson, in his inaugural address Tuesday night, said that the really good doctor, guided by the professional spirit, will always remember that medicine exists for just one purpose—to serve humanity. When the essence of that spirit is diluted or destroyed, either in an individual physician or in a nation, he added, medicine ceases to be a profession in the highest sense of the word. Dr. Larson also presented the Distinguished Service Award medal to Rep. Judd. Entertainment highlight of the inaugural program was a concert by the Montgomery County Medical Society Glee Club of Dayton, Ohio.

Election of Officers

In addition to Dr. Fister, the new president-elect, the following officers were named at the Thursday session:

Dr. Eustace A. Allen of Atlanta, Ga., vice president; Dr. Norman A. Welch of Boston, re-elected speaker of the House, and Dr. Milford O. Rouse of Dallas, Tex., re-elected vice speaker.

Elected to the Board of Trustees were Dr. Wesley W. Hall of Reno, Nev., to succeed Dr. Fister; Dr. Homer L. Pearson, Jr., of Miami, Fla., to replace Dr. Julian P. Price of Florence, S. C., and Dr. Charles L. Hudson of Cleveland, Ohio, to fill out the term of the late Dr. Cleon A. Nafe of Indianapolis. The Board named the following officers: chairman, Dr. Hugh Hussey of Washington, D. C.; vice chairman, Dr. Percy Hopkins of Chicago, and secretary, Dr. James Z. Appel of Lancaster, Pa.

Named to the Judicial Council were Dr. Robertson Ward of San Francisco, to succeed himself, and Dr. Elmer G. Shelley of North East, Pa., to replace Dr. Pearson.

Re-elected to the Council on Constitution and Bylaws was Dr. Walter E. Vest of Huntington, W. Va.

New Members of the Council on Medical Service are Dr. Charles Ashworth of Providence, R. I., succeeding Dr. Carlton Wertz of Buffalo, N. Y., and Dr. Burtis E. Montgomery of Harrisburg, Ill., to succeed Dr. Charles Hudson of Cleveland.

For the Council on Medical Education and Hospitals, Dr. Dwight L. Wilbur of San Francisco was elected to succeed Dr. John W. Cline of the same city, and Dr. Kenneth C. Sawyer of Denver, Colo., was named to succeed Dr. Guy A. Caldwell of New Orleans.

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Jefferson	Third Thursday of every month	
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

IN-PATIENT RECORDS OF CHARITY HOSPITAL MADE AVAILABLE TO MEMBERS OF THE LOUISIANA STATE MEDICAL SOCIETY

The Board of Administrators of Charity Hospital, at their last meeting, discussed and gave careful consideration to the matter of making in-patient records available to all members of the Louisiana State Medical Society, and the following policy was adopted:

Upon presentation of proper identification, all members of the Louisiana State Medical Society will be issued visitors' cards which will allow them to review patients charts and interview patients in Charity Hospital. However, they will not be permitted to examine patients or remove dressings without permission from the resident in charge of the patient.

Visitors cards will be issued from the Doctors' information Desk or from the Director's Office.

The Doctors' Information Desk is open from 7. a.m. to 9:30 p.m., every day, seven days a week.

The Director's Office is open from 9 a.m., to 5 p.m., Monday through Friday.

In emergencies occurring from 9:30 p.m., to 7 a.m., permission must be obtained from the resident in charge of the patient.

Records of visits, time of entrance and exit, are to be maintained by the office issuing visiting cards.

THIRTEENTH POSTGRADUATE ASSEMBLY IN ENDOCRINOLOGY AND METABOLISM

Under the Co-Sponsorship of The Endocrine Society and The National Institutes of Health
Bethesda, Maryland
October 2-6, 1961

A comprehensive review of clinical endocrine problems and current research activity in these areas will be presented. For further information, write to: Dr. Roy Hertz, National Institutes of Health, Building 10, Bethesda 14, Maryland. The fee will be $100.00 for physicians, with a reduction to $30.00 for Residents and Fellows. Enrollment limited to 100.

UROLOGY AWARD

The American Urological Association offers an annual award of $1000 (first prize of $500, second prize $300, and third prize $200) for essays on the result of some clinical or laboratory research in Urology. Competition is limited to Urologists who have been graduated not more than ten years, and to hospital internes and residents doing clinical or laboratory research work in Urology. Animal research is not necessary.

The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Bellevue - Stratford Hotel, Philadelphia, Pennsylvania, May 14-17, 1962.

For full particulars write the Executive Secretary, William P. Didusch, 1120 North Charles Street, Baltimore 1, Maryland. Essays must be in his hands before November 15, 1961.

COURSE IN POSTGRADUATE GASTROENTEROLOGY

The American College of Gastroenterology announces that its Annual Course in Postgraduate Gastroenterology will be given at the Sheraton-Cleveland in Cleveland, Ohio, on 26, 27, 28 October 1961.

The faculty for the Course will be drawn from the medical schools in and around Cleveland. The subject matter to be covered in the Course, from a medical as well as a surgical viewpoint, will be, essentially, the advances in diagnosis and treatment of gastrointestinal diseases. There will be comprehensive discussions of pancreatic disease, biliary tract disease, electrolytes, peptic ulcer, etc.

There will be an "X-ray Classroom" on the last afternoon, presented by an outstanding panel of specialists who will answer questions and

present instructional demonstrations. There will also be a class in Cinegastrophotography.

One complete session will be held at the Cleveland Clinic and one at the Cleveland Academy of Medicine.

For further information and enrollment write to the American College of Gastroenterology, 33 West 60th Street, New York 23, N. Y.

EXPECTANT MOTHER SURVIVES SURGERY USING HEART-LUNG MACHINE

An expectant mother has survived an operation in which a heart-lung machine was used for 20 minutes, it was reported today in the current (June 24) Journal of the American Medical Association.

A team of surgeons at the University of Washington School of Medicine, Seattle, said the operation shows that a heart-lung machine may be used safely insofar as the health of the mother is concerned, but the effect on the unborn child "remains in doubt."

The machine takes over the work of the heart and lungs while the heart is being operated on.

In the case reported, the 23-year-old mother gave birth to a son five months after the operation but the infant, born with a number of defects, lived for only four months, Drs. Robert Leyse, Milford Ofstun, David H. Dillard and K. Alvin Merendino said. The woman subsequently gave birth to a healthy son, they said.

A severe congenital heart defect in the patient associated with an unusual combination of circumstances necessitated the operation during pregnancy, the surgeons said.

The open-heart surgery required that the patient's total blood circulation be handled by the heart-lung machine, a procedure termed total body perfusion, they said. Fortunately, they said, the need for total body perfusion for correction of a heart defect in an expectant mother "will be extremely rare."

"To our knowledge, this was the first instance in which a pregnant woman was subjected to total body perfusion," the authors said.

INVESTIGATE ASPIRIN POISONINGS IN CHILDREN

A study of 94 accidental aspirin poisonings in children reveals that in all but one instance the child had been told the pills were "candy."

The study was reported by Dr. Roger J. Meyer, Boston, in the July American Journal of Diseases of Children, published by the American Medical Association.

"The entire group of children with but one exception had previous experience with acetylsalicylic acid (aspirin), usually the flavored variety," Dr. Meyer said.

"This medication was used for virtually **every** illness or indisposition suffered by family members with or without fever. Parents admitted that they encouraged acceptance by presenting it to children as 'candy,' and felt that this was an important factor in their children's ingestion of acetylsalicylic acid."

The cases studied involved children from one to five years old and were selected from 313 cases reported to the Boston Information Center during a 12-month period.

The study showed that 62 of the children shared the aspirin with playmates and sweetened aspirin was taken by the youngsters in 84 instances, Dr. Meyer said.

Of the 94 cases, 73 occurred after aspirin had been used to treat another member of the family, he said. The majority of the poisonings, 56.5 per cent, occurred less than an hour before the child's mealtime, he said.

Dr. Meyer said the predominating circumstance in the home at the time of the poisonings fell into one of three categories.

In 17 cases, aspirin was being used for an illness in the family. In 29 cases, precautions had been taken but the child showed unusual resourcefulness in obtaining the tablets. In 48 cases, there was generally unsatisfactory health supervision or lack of understanding of children's needs.

"All families had a special place for medications, but two factors eliminated this family safeguard: (1) family ignorance concerning the dangers of acetylsalicylic acid and (2) general lack of safety precautions against household hazards," Dr. Meyer commented.

Aspirin is not only the most common childhood poison, but its widespread use, attractive taste, as well as the late appearance of its toxic symptoms make it a particular threat to families with young children, he said.

SCIENTIFIC PAPER AWARD CONTEST

Southeastern Surgical Congress announces the prize scientific paper award contest eligible to residents of approved hospitals in the Southeastern States for the best scientific papers.

Papers are due at the Congress office at 340 Boulevard NE, Atlanta 12, Georgia, before December 1, 1961. The prize for the first place winner is an all-expense paid trip to the meeting at Louisville, Kentucky, March 5, 6, 7, 8, 1962, plus a cash award. Dr. Ira A. Ferguson is Chairman of the Committee.

AMERICAN HEART ASSOCIATION'S 1961 SCIENTIFIC SESSIONS TO INCLUDE 6 PROGRAMS ON CLINICAL CARDIOLOGY

Six sessions on clinical cardiology will be included in the 34th annual Scientific Sessions of the American Heart Association, to be held October 20-22 at the Americana Hotel, Bal Harbour, Miami Beach, Florida. A panel or sym-

posium including related investigative work will be presented at each clinical session.

In addition, a total of 18 other scientific sessions will be held concurrently during the three-day program.

A tentative outline of the program follows:

Friday, October 20: The sessions on clinical cardiology include an opening address by Dr. Oglesby Paul, AHA President; the Conner Memorial Lecture, by Dr. Clark H. Millikan, Professor of Neurology, Mayo Clinic; symposia on "Contribution of Phonocardiography to Auscultation," and on "Coronary Arteriography;" a lecture on "Biplane Angiography" by Dr. Herbert L. Abrams, Assistant Professor of Radiology, Stanford Medical Center. Concurrent sessions are scheduled on arteriosclerosis, on biophysical methods in the study of circulation, and on high blood pressure research. A program for nurses is also scheduled concerning cardiovascular research as it relates to care of the cardiac patient.

Saturday, October 21: The clinical sessions will include a panel on "Ventricular Arrhythmias;" a lecture on "Closed Chest Cardiac Resuscitation" by Dr. James R. Jude, Johns Hopkins Hospital; the Brown Memorial Lecture on "Physiology of the Peripheral Circulation," by Dr. Robert W. Wilkins, Professor of Medicine, Boston University School of Medicine; and a symposium on "Renal Failure." Simultaneous scientific sessions will be held in the fields of basic science, cardiovascular surgery, and on "Compensable Heart Disease, Strain and Trauma."

Scheduled for Saturday evening are "Cardiac Conferences," which will give physicans an opportunity to participate in small group discussions on timely cardiovascular problems.

Sunday, October 22: Subjects for the clinical sessions include a symposium on "The Role of Hormones in Heart Failure;" panels on "Ventricular Hypertrophy and Bundle Branch Block" and "Newer Electrocardiographic Lead Systems;" and a lecture on "ECG Clues Suggesting Myocardial Infarction" by Dr. Junior A. Abildskov, Assistant Professor of Medicine, State University of New York College of Medicine. Concurrent sessions will be held on rheumatic fever and congenital heart disease and on cardiovascular surgery. Cardiovascular films, with introduction and commentary by the author or other authority on the subject of each film, will be shown throughout Sunday.

As in previous years, scientific and industrial exhibits will be on display.

Registration forms, which include applications for hotel reservations, are avaiable from the American Heart Association, 44 East 23rd Street, New York 10, N. Y.

NEW COMPOUND RATED TOPS FOR SKIN INFECTION

A new compound has produced excellent results in the treatment of a fungus skin infection known as tinea versicolor.

The infection causes fawn-colored scaly spots over the upper part of the body.

Writing in the April 8 Journal of the American Medical Association, Dr. Erwin H. Zimmerman, Huntington, N. Y. said the new agent, 9-aminocridinium 4-hexylresorcinolate (Akrinol), "far surpasses any medication" he has previously used.

Dr. Zimmerman said a preliminary study produced "excellent results" as reflected by a relatively short period of therapy required for clearing of the infection, a complete lack of side effects, ease of application and cosmetic acceptability of the preparation, and an exceptionally low incidence of recurrences.

The new compound was used to treat 40 patients, the majority of whom had had the disease for two to three years. Treatment was continued for four to eight weeks.

Of the 40 patients, 34 or 85 per cent showed excellent results with complete clearing of the infection after the first course of treatment. Five showed a good response with complete clearing after two courses of treatment. Only one had a consistently poor response.

BOOK REVIEWS

Fundamentals of Chest Roentgenology; by Benjamin Felson, M. D. (Saunders), 1960, 301 p. $10.00.

This small (300 page) well illustrated book effectively accomplishes its mission. Dr. Felson's narrative is interesting and concise, although a bit dogmatic. This however is acceptable in a book which deals with the fundamentals of a subject rather than an exhaustive treatise.

The chapters are divided to cover each portion of the thorax and its contents (example—lobes, segments, hili, pleura). It does not attempt to illustrate all the possibilities of every chest disease or abnormality. It instead expresses an approach to understanding the meanings of shadows, silhouette signs, air bronchograms, etc.

The only possible flaw in the book is that the illustrations frequently are cropped to show only one fourth or one half of the entire radiograph—thus preventing the reader from viewing the illustrated abnormality in its setting of the entire X-ray film.

The book has a complete bibliography. It can be highly recommended to those interested in techniques of chest X-ray interpretation.

W. John O'Shaughnessy, M. D.

Chemical Osteosynthesis in Orthopaedic Surgery; by Michael P. Mandarino, M. D., Charles C Thomas—1960, 72 p., price $4.50.

The Publisher indicates that the book is an "American Lecture Series".

It has a one page preface by Dr. Mandarino in which he gives credit and thanks to those who have helped him.

Pages 3 through 17 are devoted to the history and chemistry of the polyurethanes, and of "Ostamer", the developed plastic to which the book is devoted. This section may be of interest to a chemist.

Pages 18 through 24 are titled "Tissue Response to Ostamer" and discusses the reactions of rats, guinea pigs, pigs and dogs to implants of "Ostamer". The reaction of the human body to "Ostamer" was not indicated.

Pages 25 through 29 are Titled "Histology" and describe the reaction of three dog femurs to "Ostamer".

Pages 30 through 37 are titled "Indications for Surgery", and "pathologic fractures, bone cysts, acute fractures that are prone to complication, spine fusions, and other joint fusions," are listed. Then, under healing of "Non-union", Ostamer is recommended in infected cases of non-union. "Infection is no barrier to Union", "if weight bearing can be attained." "Even if dressings must be changed as often as five times daily, weight bearing should be insisted upon."

Pages 38 through 41 are titled "Techniques of Surgery" and illustrated is a massive exposure of what appears to be an entire tibia and fibula exposed by means of an incision over the bare area of the tibia, from below the knee to just above the ankle. These bones are really stripped, a strip of cortex removed, the medullary canal scraped out, steel rods inserted, and Ostamer poured in ad lib. "Ostamer is as strong as the mass that can be implanted" is stressed and I rather get the impression that it is desirable to cut out and discard a lot of what seems to be good bone, so that a large mass of Ostamer may fill its former site. This procedure is called "The classical Mandarino operation".

Pages 42 through 63 are titled "Review of Fifty Cases Operated by the Author". For some reason, not clear to me, he mentions "a total of three hundred cases has been treated with Ostamer . . . " "Of these . . . 94 per cent have had successful results", and then discusses "the fifty cases personally operated . . . " I feel that, if a man has 300 cases, he should present 300 cases.

This book presents an interesting, but far from convincing case for the use of Ostamer in the treatment of fractured bones. Since Ostamer is space filling, and stronger "en masse", it is my impression that it may have some conceivable use in pathological fractures and, possibly, in bone cysts. As represented in his book, it is certainly not an ideal "bone glue".

Robert M. Rose, M. D.

Resuscitation of the Newborn Infant; edited by Harold Abramson, M. D. The C. V. Mosby Company, 1960, 274 p., price $10.00.

To quote from the author's preface, this is "the story of the resuscitation of newborn infants—what we know and what we do not know." These few words sum up the meat of the book and what important words they are!

Here is a book that has more material in it than the reviewer has ever read on the subject. It gives the physiology, biochemistry, and pathology of the fetus and the newborn infant in great detail. In addition, it covers the examination of the mother, her obstetric history and management and the complete handling of the baby and its complications at birth. It goes into details on the drugs given to the mother and the baby, the resuscitators, and care of the baby from birth into the recovery nursery for newlyborns to the main nursery. The recovery nursery is a thing we do not have and after reading the details of this one, I think it is as valuable as the surgical recovery room is to a hospital.

The purpose of this book is to help reduce human wastage, to emphasize how every detail of the care of the mother affects the baby; how recognition of the infant's difficulty and knowledge of all available resuscitators and drugs may save our newborns.

The reviewer cannot overemphasize the pains to which the author has gone to show how the mortality rate of the newlyborns can be lowered. This book belongs in the library of the obstetrician and the pediatrician.

Suzanne Schaefer, M. D.

Atlas of Anatomy and Surgical Approaches in Orthopedic Surgeries, Volume II, the Lower Extremities; by Rodolfo Cosentino, Charles C Thomas, 1960, 264 p., price $14.00.

Since I have had the opportunity to review the initial volume of the Upper Extremity, I find that in going through the book and its contents, again I am struck by the clarity of the entire presentation with the facts and figures given so specifically and concisely, and yet kept to a minimum of detail, which is all noted in the plates. The plates show extremely beautiful dissection of all of the segments with exceptionally

clear photography, so that nothing is lost by shadows or improper presentation such as the usual type of coloring found in many other works.

The fact again that interests this reviewer is the idea of placing the literature describing the part that is dissected out to the left, and having the plate on the right, so the individual who reads can go from one to the other with the book completely open, and not have to flip through a half dozen pages in an attempt to get to the subject under discussion. This, we feel, lends itself to an exceptionally good book for anybody who is in the field of orthopedic surgery.

As previously stated, I feel that the medical student in anatomy, the surgeon who does any type of peripheral work, and even the general practitioner who is interested in the anatomical problems that exist in the extremity and attempts to relate it to the pathology signs and symptoms will be greatly benefitted by the use of this book. I feel again, as I did before, that this is without a doubt the finest work that I have seen in the field of orthopedic anatomy and surgical approach.

H. R. Soboloff, M. D.

Current Surgical Management II. A Book of Alternative Viewpoints on Controversial Surgical Problems; Edited by John H. Mulholland, M.D., Edward H. Ellison, M. D., and Stanley R. Friesen, M. D., with contributions by 50 authorities. Pp. 348. Philadelphia and London, W. B. Saunders Company, 1960. Price $8.00.

Three years ago, in 1957, the editors of this volume published another volume with precisely the same title. This reviewer's first reaction, on seeing the second volume, was to wonder whether there was any real need for it.

There is. For one thing, the controversial problems discussed in the first volume are still very much with us and, for the most part, are as controversial as they were in 1957. For another, this book, as the editors point out explicitly in the preface, "is not a second edition, or a revision, but rather an extension." Finally, the editors have not only avoided any repetition of their original subject matter, they have also imported new blood. With the exception of the editors themselves, only two of the contributors to the first volume appear in the second.

A comparison of the tables of contents of the two volumes shows that the only material which reappears in the second volume concerns the management of duodenal ulcer and its complications, and the need for that extension is obvious. This is a complex lesion, as the multiple procedures devised for its management make evident. The second volume introduces viewpoints not touched upon in the first, including the radiation treatment of duodenal ulcer, wedge resection, and various adjunct procedures designed to supplement vagotomy.

The second volume, like the first, covers a broad spectrum of anatomic systems, but different components are dealt with. To use the biliary system as an example, in the first volume the discussion concerns the surgical versus the nonsurgical management of acute cholecystitis. In the second volume, the common bile duct is the focus of attention and there is an interesting debate on the pros and cons of operative cholangiography; the use or omission of T-tube drainage; and the selection of a technique for the repair of ductal strictures. To use another illustration, in the first volume benign diseases of the pancreas are discussed, including pancreatitis and cysts and pseudocysts. In the second volume, attention is directed to the choice of surgery for carcinoma of the head of the pancreas. In the first volume, sphincterotomy is discussed in the pancreatitis and pseudocyst. In the second volume, the discussion is extended to the question of whether or not a normal gallbladder should be removed when this operation is done.

In the second volume, the section devoted to the vascular system is considerably enlarged. The symposium on the management of insufficiency of the peripheral arterial vessels includes conservative measures, the use of grafts, thromboendarterectomy, and lumbar sympathectomy.

There is a timely discussion of acute renal failure, covering diet, fluid regulation, the use of the artificial kidney, and peritoneal dialysis. It is unfortunate, though unavoidable, that the book is too short to permit a fuller discussion of the disturbed chemistry and physiology present in this condition. Another timely discussion concerns preoperative preparation for resection of the colon, with the pros and cons of antibiotic therapy.

As in the first volume, the presentations in the second are concise, lucid, and highly informative. There are brief but well selected bibliographies attached to each chapter, and they, with the text, offer points of departure for those who wish to pursue the various subjects further.

The format of the book is attractive, but one could wish that the editors had provided a somewhat more comprehensive index.

When this reviewer first looked at this volume, in addition to speculating whether it was really justified, he also decided that it would not be necessary to purchase it. After reading it, he concluded, as this review indicates, that it was indeed justified and that it deserves a place on every surgeon's library shelf.

H. Reichard Kahle, M. D.

Practical Neurological Diagnosis, With Special Reference to the Problems of Neurosurgery. Edition 6. By R. Glen Spurling, M. D. Springfield, Charles C Thomas, Publisher, 1960. Price $6.75.

One may be certain that a medical text that has

reached the eminence of a sixth edition (one edition with two printings) within twenty-five years is a useful book, for which a real need continues to exist. It is easy to see why the demand for this book continues: It brings together, within brief compass, in a well organized, systematic fashion, the fundamental clinical facts upon which a neurological diagnosis is based.

This is a small book and, of necessity, its field is limited. But the author, in the sixth edition, as in preceding editions, has done exactly what he has set out to do. A distinguished neurosurgeon himself, Dr. Spurling had his training under Harvey Cushing, perhaps the greatest neurosurgeon who ever lived. The technique of neurological examination upon which this book is based is the technique he learned from Cushing at the Peter Bent Brigham Hospital, where, as he writes in the preface to the sixth edition, he personally witnessed the precision with which surgical lesions of the central nervous system were localized in Cushing's patients.

When the first edition of *Practical Neurological Diagnosis* was published in 1935 (written because Spurling could find no satisfactory similar text for his own students), neurology and neurosurgery were still somewhat embryonic specialties. Such diagnostic aids as electroencephalography did not exist, and the potentialities of neuroradiology, particularly pneumoencephalography and ventriculography, were not generally employed. In successive editions, these techniques were included in Dr. Spurling's book until, like many another teacher, he found his students becoming unduly fascinated by them. As a result, they were losing sight of the importance of the clinical information to be secured by simple history-taking and physical and neurological examination, the proper interpretation of which is the real key to neurological diagnosis.

So, in his sixth edition, the author has reverted to the plan of his first edition. Supplemental diagnostic aids are omitted. His approach to neurology is entirely clinical, with the emphasis upon his own specialty of neurosurgery. The patient who is studied by the methods described can count himself fortunate. He will have had a good examination. If he has a central nervous system lesion, his physician will have all the basic facts concerning it and will know what supplementary diagnostic aids should be invoked. In short, this book meets the needs of students and physicians who are called upon to make neurological examinations.

The format of this book is cleancut and attractive. The illustrations (70 in number) are all of practical value and are well reproduced. The material is arranged logically. Neurology and neurosurgery are complicated subjects, but their inherent difficulties have been overcome, and the presentations are lucid and remarkably easy to read. The brief bibliography includes most of the major standard texts in this field. The glossary should be very useful to beginners. The index, which covers 44 pages, is detailed and comprehensive. The publisher, with sound restraint as well as great good sense, has added to the usefulness of the book by keeping the price reasonable.

A number of books on neurological diagnosis have been published within the last year or two. This book is in no sense competitive with them. It is directed toward a special audience, and it has, as every preceding edition has had, a single purpose, "to present a simple account of the principles of neurological diagnosis." How admirably that purpose has been fulfilled is evident in the publication of this sixth edition, which implies the continued popularity of the book among undergraduate and graduate students, general practitioners, house staffs, young neurologists and psychiatrists, and even experienced neurosurgeons, who like to have on their desks a ready reference book, to which they can refer themselves and which they can recommend without reservation.

RAEBURN C. LEWELLYN, M. D.

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PUBLICATIONS RECEIVED

(Certain ones of these will be selected for review)

Grune & Stratton, N. Y.: Hypertension, a Mount Sinai Hospital Monograph, edited by Milton Mendlowitz, M. D.

F. W. Dodge Corp., N. Y.: Hospitals, Doctors, and Dollars.

Doubleday & Co., N. Y.: A Traveler's Guide to Good Health, by Colter Rule, M. D.; Memoirs of a Medico, by Dr. E. Martinez Alonso; Good-Bye, Doctor Roch, by André Soubiran and translated by Helen Sebba.

The C. V. Mosby Co., St. Louis: Relief of Symptoms, by Walter Modell, M. D. (2nd edit.); Medical Pharmacology, Principles and Concepts, by Andres Goth, M. D.

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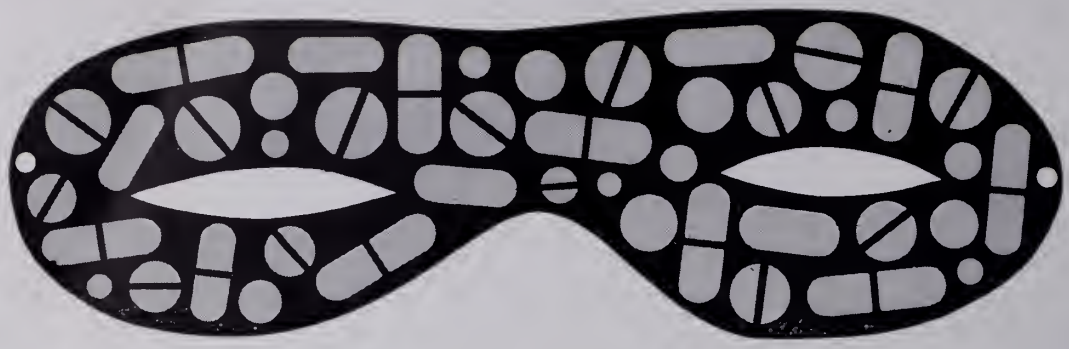
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Rhode Island Medical Journal,
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2. Ford, R. A., and Blanchard, K.: Journal-Lancet 78:185, 1958.

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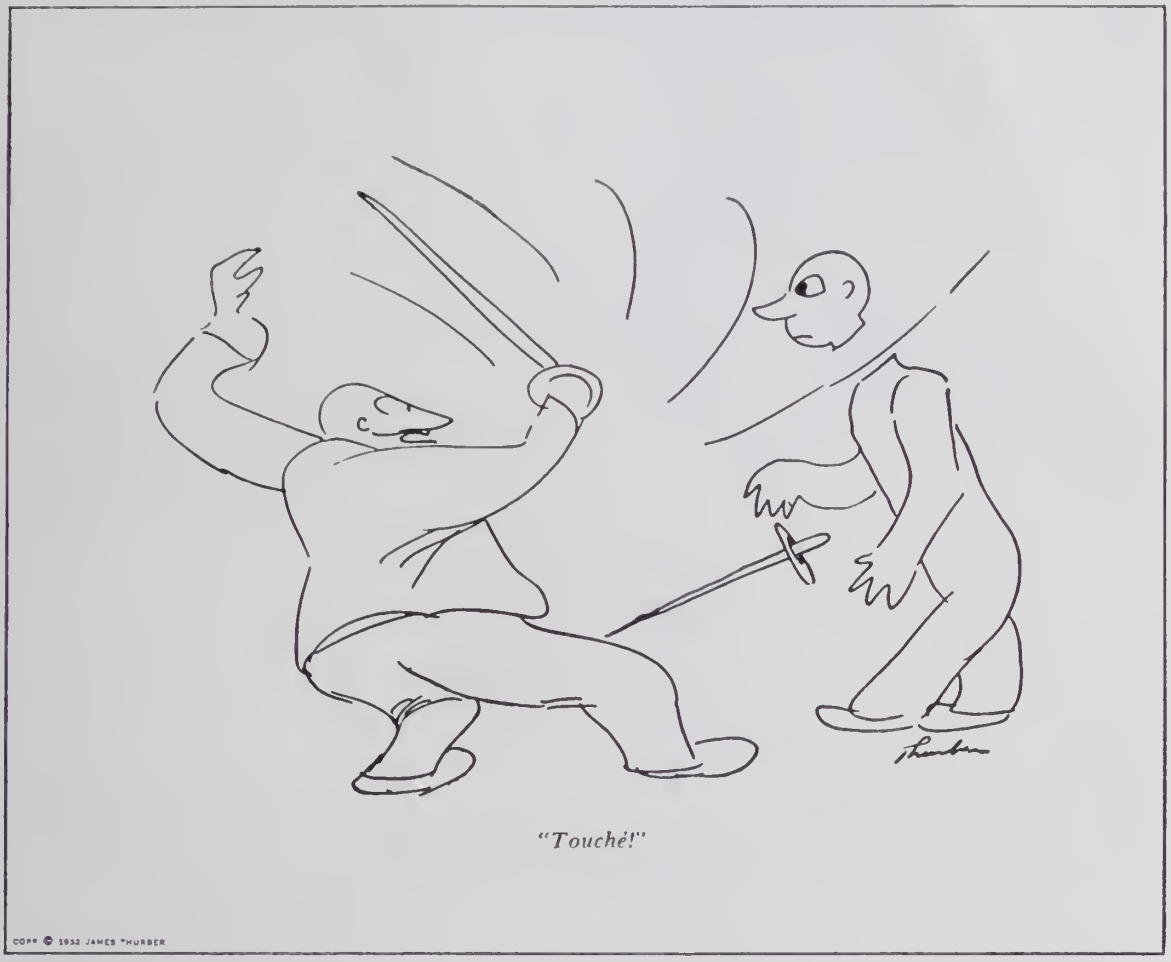
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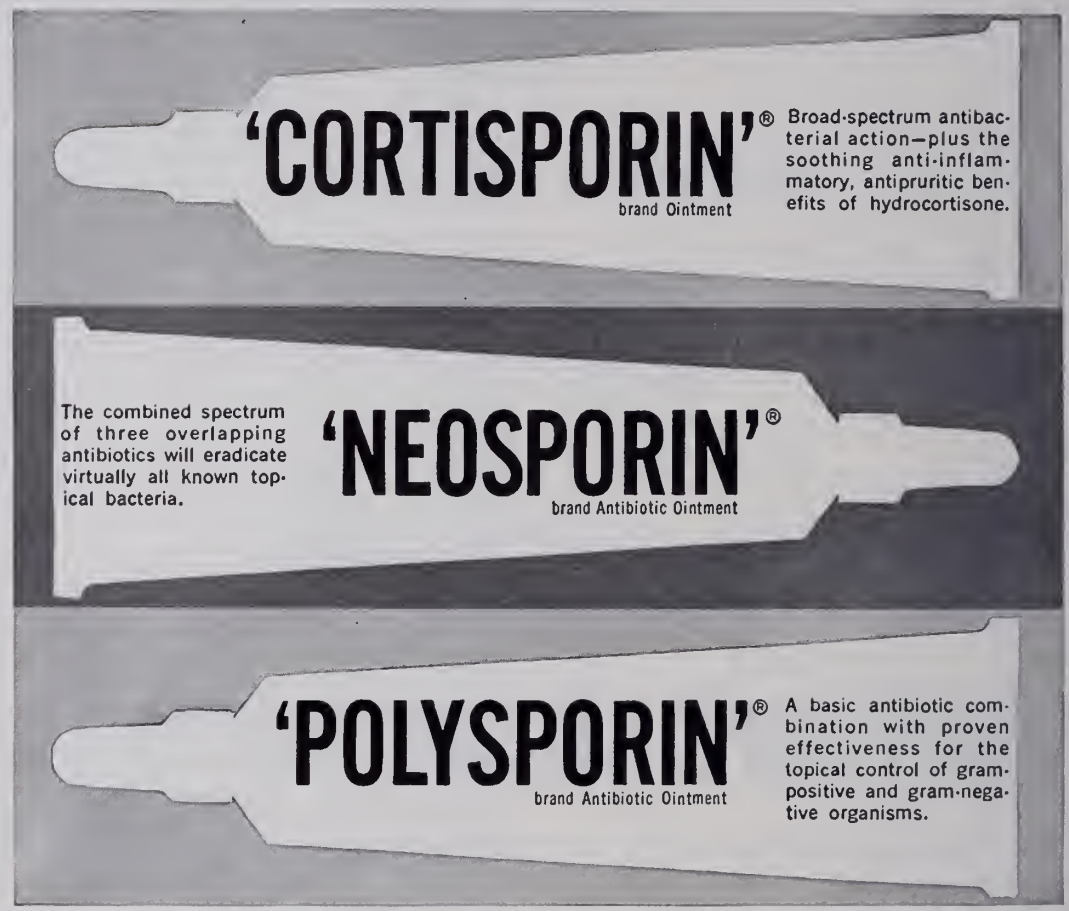
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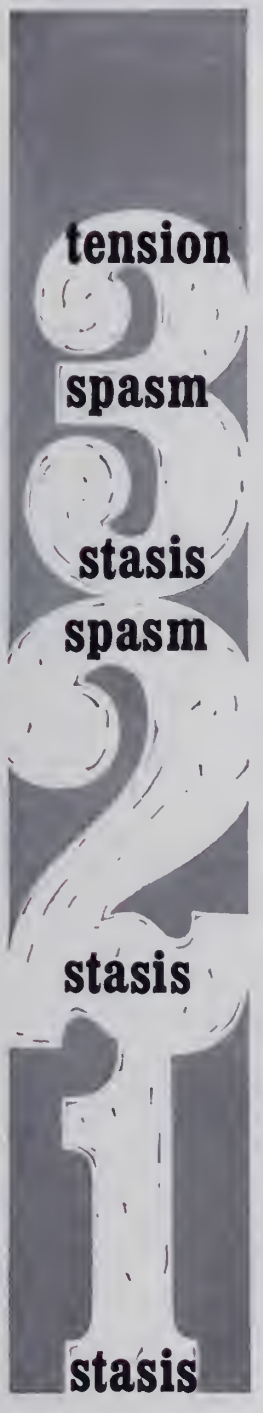
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Bibliography *(13 clinical studies, 858 patients)*: **1.** Alexander, L. (35 patients): Chematherapy of depression – Use of meprobamate combined with benactyzine (2-diethylaminoethyl benzilate) hydrochloride. J.A.M.A. 166:1019, March 1, 1958. **2.** Bateman, J. C. and Carlton, H. N. (50 patients): Meprobamate and benactyzine hydrochloride (Deprol) as adjunctive therapy for patients with advanced cancer. Antibiotic Med. & Clin. Therapy 6:648, Nov. 1959. **3.** Beerman, H. M. (44 patients): The treatment of depression with meprobamate and benactyzine hydrochloride. Western Med. 1:10, March 1960. **4.** Bell, J. L., Tauber, H., Santy, A. and Pulito, F. (77 patients): Treatment of depressive states in office practice. Dis. Nerv. System 20:263, June 1959. **5.** Breitner, C. (31 patients): On mental depressions. Dis. Nerv. System 20:142, (Section Two), May 1959. **6.** Gordon, P. E. (50 patients): Deprol in the treatment of depression. Dis. Nerv. System 21:215, April 1960. **7.** Landman, M. E. (50 patients): Clinical trial of a new antidepressive agent. J. M. Soc. New Jersey. In press, 1960. **8.** McClure, C. W., Papas, P. N., Speare, G. S., Palmer, E., Slattery, J. J., Konefal, S. H., Henken, B. S., Waad, C. A. and Ceresia, G. B. (128 patients): Treatment of depression – New technics and therapy. Am. Pract. & Digest Treat. 10:1525, Sept. 1959. **9.** Pennington, V. M. (135 patients): Meprobamate-benactyzine (Deprol) in the treatment of chronic brain syndrome, schizophrenia and senility. J. Am. Geriatrics Soc. 7:656, Aug. 1959. **10.** Rickels, K. and Ewing, J. H. (35 patients): Deprol in depressive conditions. Dis. Nerv. System 20:364, (Section One), Aug. 1959. **11.** Ruchwarger, A. (87 patients): Use of Deprol (meprobamate combined with benactyzine hydrochloride) in the office treatment of depression. M. Ann. District of Columbia 28:438, Aug. 1959. **12.** Settel, E. (52 patients): Treatment of depression in the elderly with a meprobamate-benactyzine hydrochloride combination. Antibiotic Med. & Clin. Therapy 7:28, Jan. 1960. **13.** Splitter, S. R. (84 patients): Treatment of the anxious patient in general practice. J. Clin. & Exper. Psychopath. In press, April-June 1960.

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arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]

3. Fernandez-Herlihy, L.: Lahey Clinic Bull. 11:12 (July-Sept.) 1958

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition. National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57

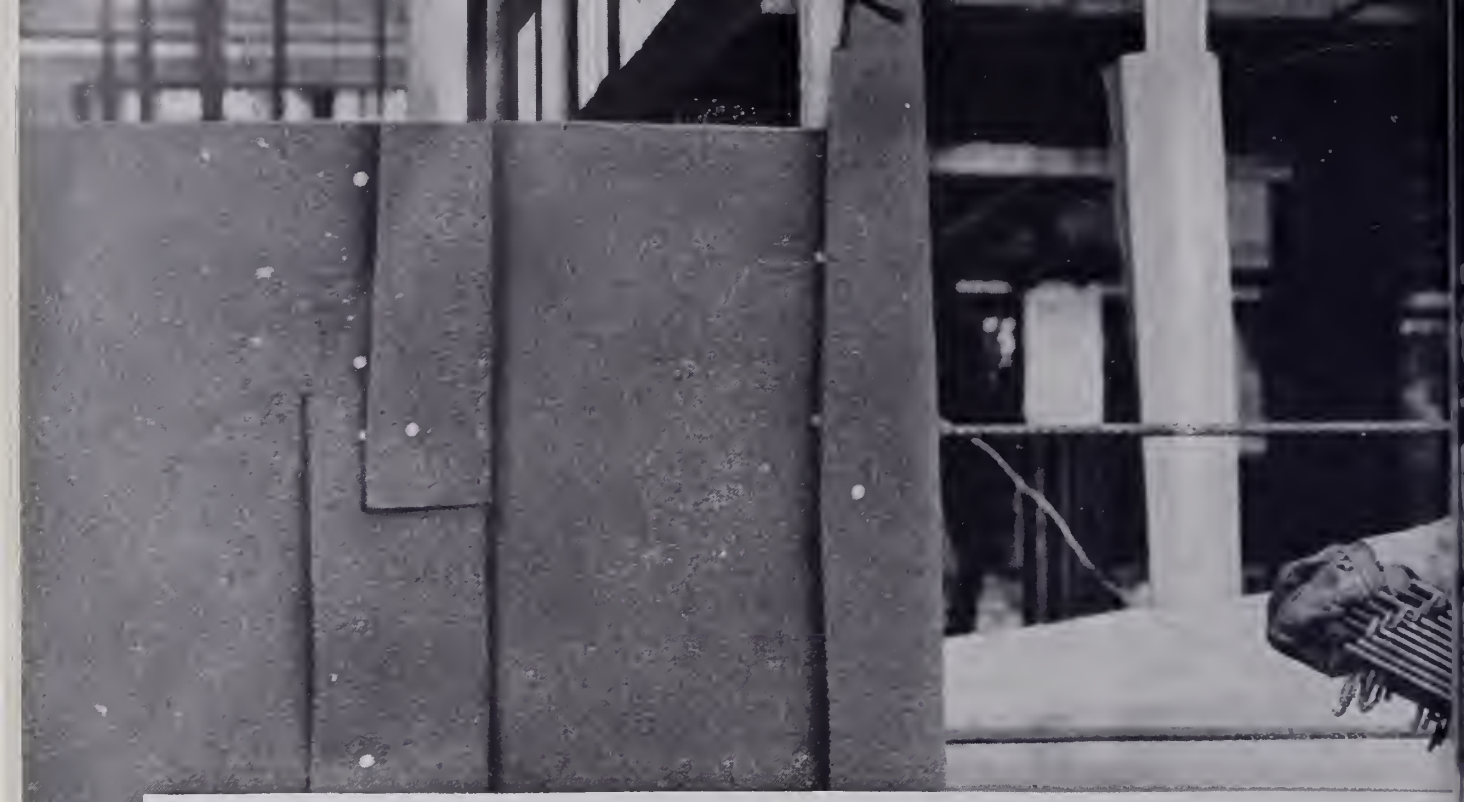
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infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G. A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]

8. Duncan, G. G.: Diseases of Metabolism, 4th edition. W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

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references: (1) Lish, P. M.; Alberi, J. R.; Peters, E. L., and Allen, L. E.: Arch. internat. pharmacodyn. *129*:77-107 (Dec.) 1960. (2)Howell, C. M., Jr.: North Carolina M. J. *21*:194-195 (May) 1960. (3) Clinical Research Division, Mead Johnson & Company. (4) Wahner, H. W., and Peters, G. A.: Proc. Staff Meet. Mayo Clin. *35*:161-169 (March 30) 1960. (5) Crepea, S. B.: J. Allergy *31*:283-285 (May-June) 1960. (6) Crawford, L. V., and Grogan, F. T.: J. Tennessee M. A. *53*:307-310 (July) 1960. (7) Spoto, A. P., Jr., and Sieker, H. O.: Ann. Allergy *18*:761-764 (July) 1960. (8) Arbesman, C. E., and Ehrenreich, R.: New York J. Med. *61*:219-229 (Jan. 15) 1961.

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Cosa-Terrabon® Oral Suspension	**Terramycin** Syrup
Cosa-Terrabon Pediatric Drops	**Terramycin** Pediatric Drops

and simpler names for these Terramycin-containing formulations:

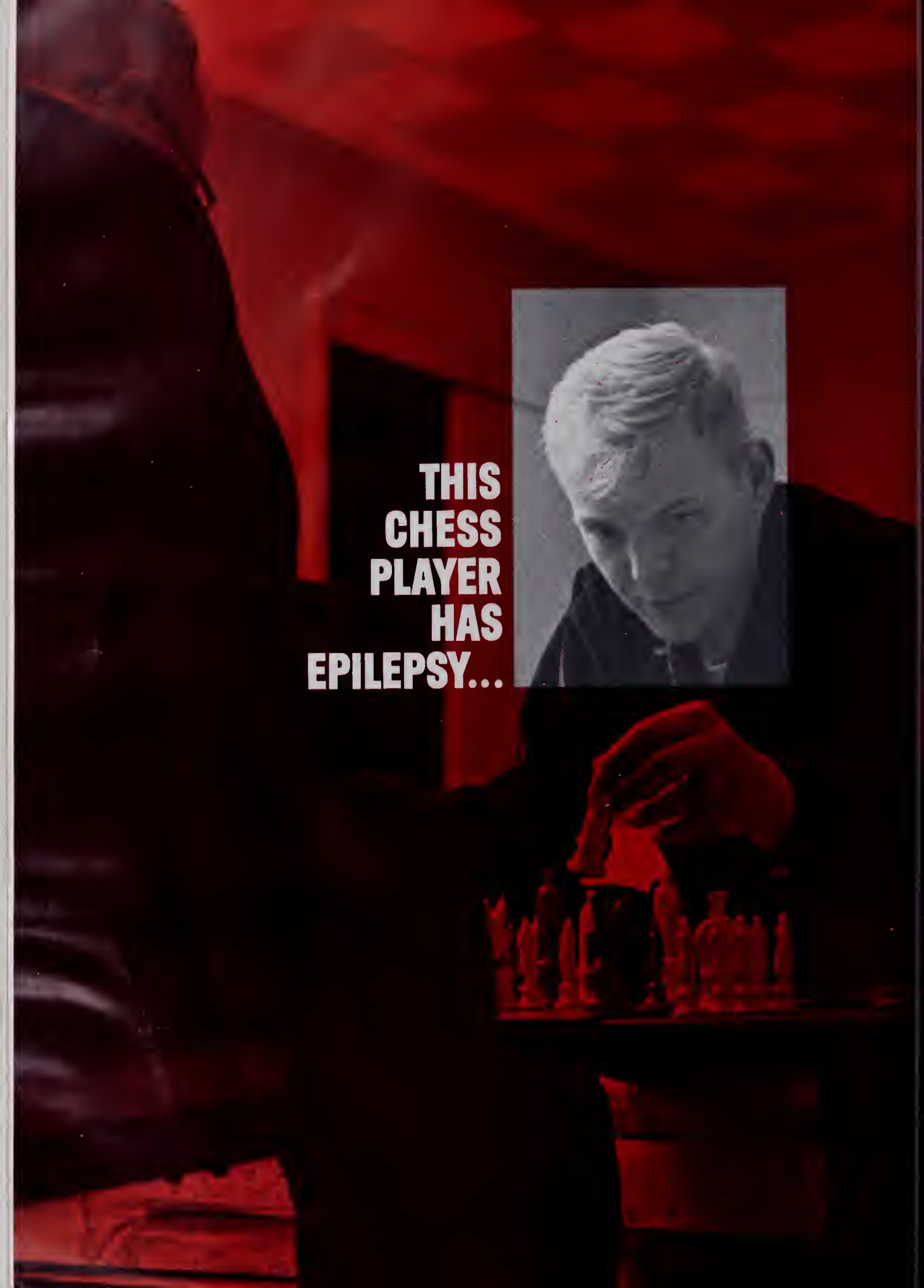
Cosa-Terrastatin® Capsules	**Terrastatin**® Capsules
Cosa-Terrastatin for Oral Suspension	**Terrastatin** for Oral Suspension
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(1) Carter, S.: *M. Clin. North America* 37:315, 1953.
(2) Maltby, G. L.: *J. Maine M. A.* 48:257, 1957.
(3) Buchthal, F.; Svensmark, O., & Schiller, P. J.: *Arch. Neurol.* 2:624, 1960.

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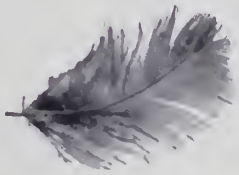
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References: 1. Santos, I. M. H., and Unger, L.: Ann. Allergy 18:172 (Feb.) 1960. 2. Charlton, J. D.: Ann. Allergy, In press. 3. Shaftel, H. E.: Clin. Med. 7:1841 (Sept.) 1960.

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Adaptable for use with diabetics. Carbohydrates have been calculated to fall within the acceptable range for patients to whom a diet planned for diabetes is important. Calories, which must be supplied from fat when the carbohydrate intake is limited, are provided by desirable poly-unsaturated vegetable oil.

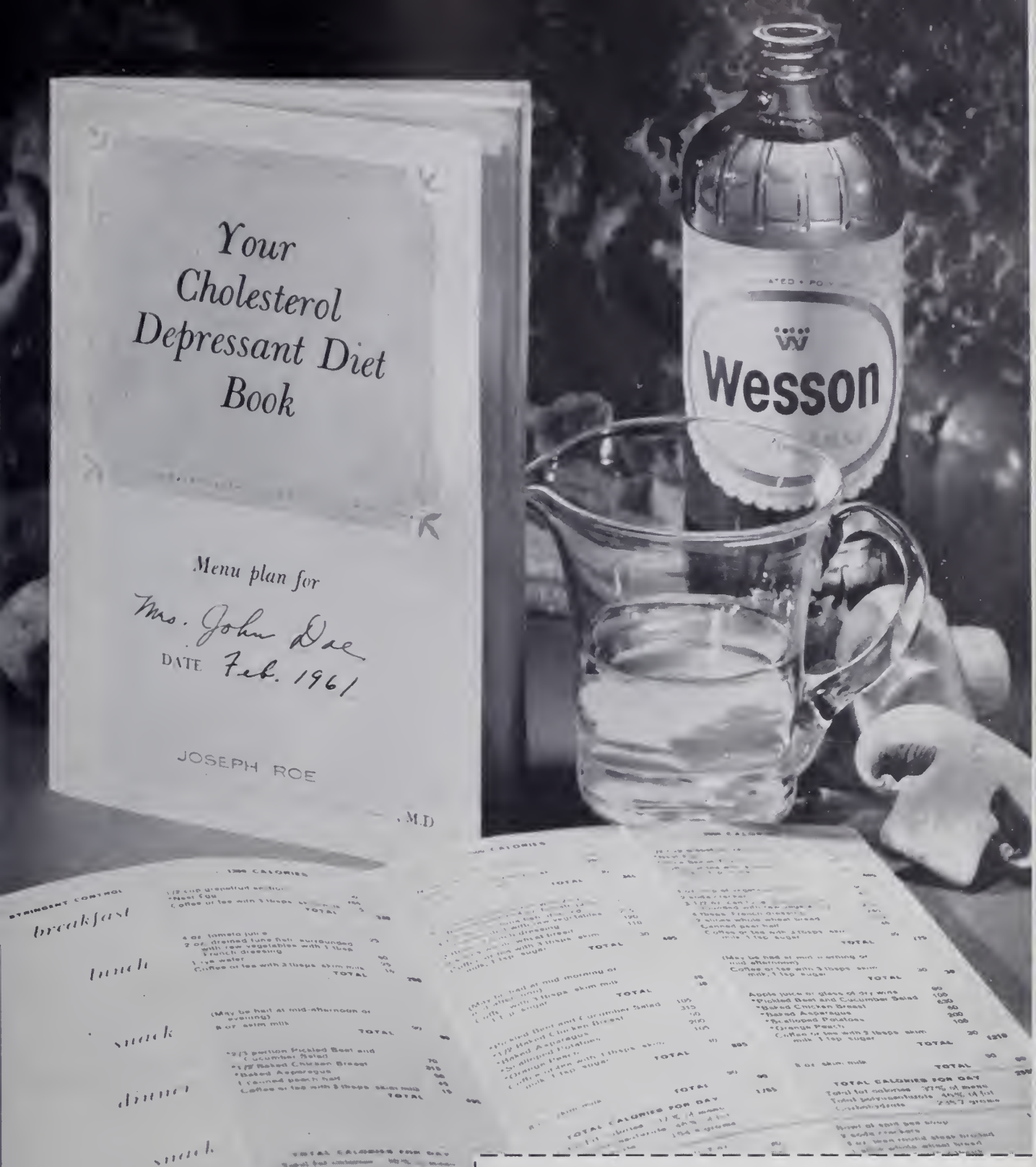
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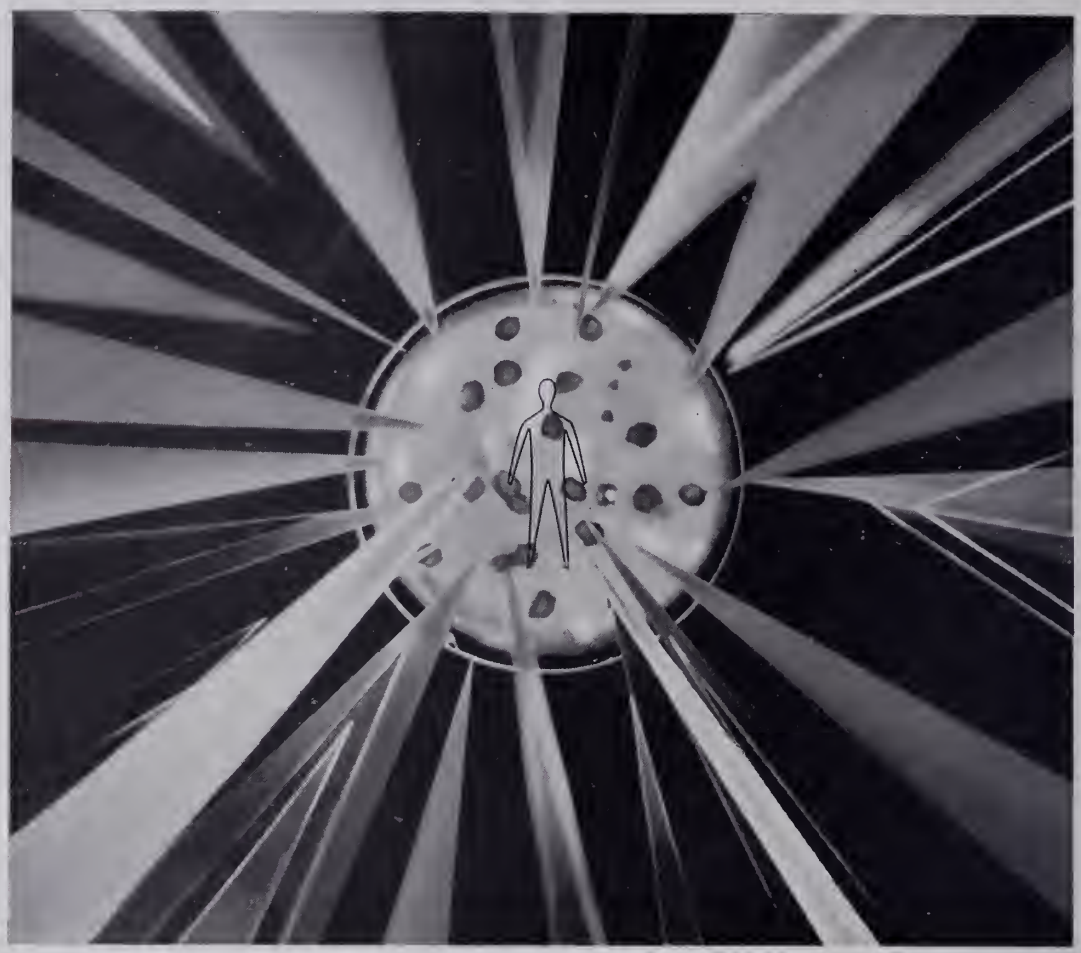
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Also available: DILODERM Cream, 5 Gm. tube; NEO-DILODERM® Cream 0.25%, 5 and 15 Gm. tubes; DILODERM and NEO-DILODERM Foam, 10 Gm. dispensers; DILODERM and NEO-DILODERM Aerosols, 50 Gm. containers.

*Gant, J. Q., Jr.: *M. Ann. District of Columbia 30*:267, 1961.

If concern about effectiveness or high cost has kept you from prescribing any topical steroid...

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For complete details, consult latest Schering literature available from your Schering Representative or Medical Services Department, Schering Corporation, Bloomfield, New Jersey.

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How to help your patient stick to a low sodium diet

The secret ingredient in a successful diet is acceptance. Dishes that are low in sodium can gain flavor and appetite appeal from a variety of other herbs and seasonings. Broiled hamburger, for instance, tastes delicious when it's seasoned with thyme, marjoram and pepper. Rosemary, lemon and sweet butter turn broiled chicken into an elegant main dish. In fact, sweet butter can be used many ways —with tarragon on carrots, nutmeg on beans, oregano on tomatoes, savory on limas. Onions boiled with thyme are tempting enough to please the palate of any dieter.



A glass of beer can add zest to a patient's diet

Sodium 7 mg/100 grm.
17 mg/8 oz. glass
(Average of American Beers)



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AN IMPORTANT AID IN THE TREATMENT AND REHABILITATION OF THE PROBLEM DRINKER

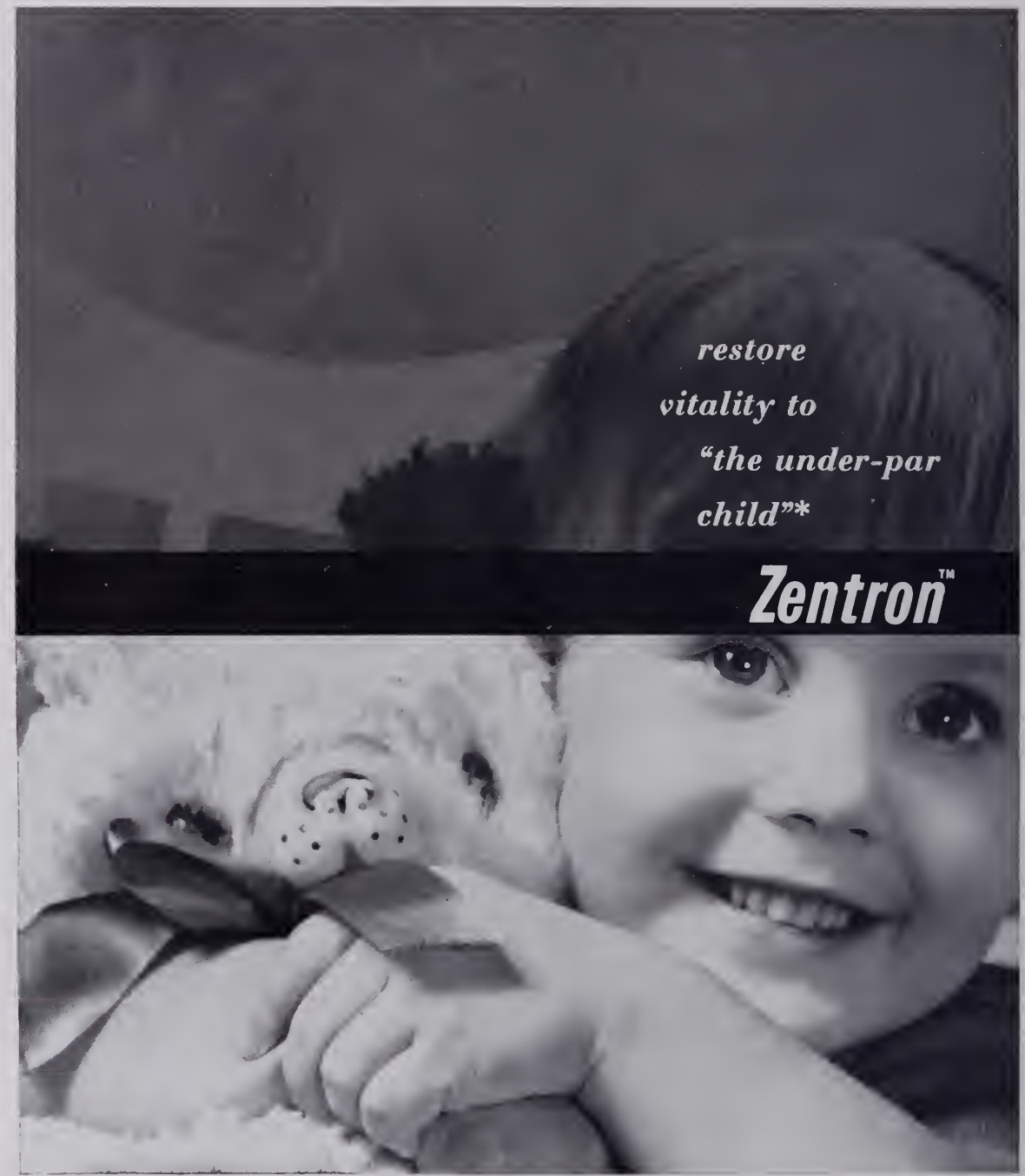
During and after an acute alcoholic episode, Librium relieves anxiety, agitation and hyperactivity, induces restful sleep, stimulates appetite and helps to control withdrawal symptoms. The complications of chronic alcoholism, including hallucinations and delirium tremens, can often be alleviated with Librium.

During the rehabilitation period, Librium makes the patient more accessible, strengthening the physician-patient relationship. Librium therapy helps to reduce the patient's need for alcohol by affording a constructive approach to his underlying personality disorders.

Consult literature and dosage information, available on request, before prescribing.

LIBRIUM® Hydrochloride—7-chloro-2-methylamino-5-phenyl-3H-1,4-benzodiazepine 4-oxide hydrochloride

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Zentron • *comprehensive liquid hematinic*

corrects iron deficiency • restores healthy appetite • helps promote normal growth

**underweight, easily fatigued, anorexic—because of mild anemia*

Each 5-cc. teaspoonful provides:

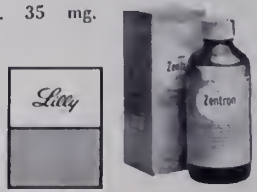
Ferrous Sulfate (equivalent to 20 mg. of iron)	100	mg.
Thiamine Hydrochloride (Vitamin B_1)	1	mg.
Riboflavin (Vitamin B_2)	1	mg.
Pyridoxine Hydrochloride (Vitamin B_6)	0.5	mg.
Vitamin B_{12} Crystalline	5	mcg.
Pantothenic Acid (as *d*-Panthenol)	1	mg.
Nicotinamide	5	mg.
Ascorbic Acid (Vitamin C)	35	mg.

Alcohol, 2 percent.

Usual dosage: Infants and children—1/2 to 1 teaspoonful (preferably at mealtime) one to three times daily.

Adults—1 to 2 teaspoonfuls (preferably at mealtime) three times daily.

Zentron™ (iron, vitamin B complex, and vitamin C, Lilly) 119349



The Journal

of the

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Vol. 113, No. 9

SEPTEMBER, 1961

Published Monthly
1430 Tulane Avenue, New Orleans 12, La.

Diabetic Neuropathy*

• The preponderance of evidence in the literature and in the present series indicates that neurological complications develop most frequently in long standing poorly controlled cases of diabetes mellitus. At present, careful regulation of the diabetic state is the most beneficial method of avoiding neurological complications.

RICHARD M. PADDISON, M. D.
EDWARD THORNHILL, M. D.
New Orleans

DIABETES mellitus is a disease which has been recognized since the time of Moses, but the neurological complications were first noted by Rollo [1] in 1798. DeCalvi,[2] in 1864, postulated that diabetes might be the cause of pain and peripheral anesthesia.

The neurological complications resultant from diabetes mellitus remain a confused issue. The percentage of neurological complications of diabetes mellitus reported in the literature vary from none to over 50 per cent.

Rundles [3] found 125 cases of neuropathy in 3000 cases of diabetes or an incidence of 4 per cent.

Jordan [4] found objective symptoms of diabetic neuritis in 74 of 150 patients (49 per cent).

Broch and Klovstad [6] found 88 cases of neuropathy in 426 diabetics (20.7 per cent).

Goodman,[7] et al, feel that almost 100 per cent of diabetic patients have neurological complications.

Mulder,[8] et al, found 43 patients with unequivocal evidence of neuropathy in a series of 103 diabetic patients (41.7 per cent).

Neurological Syndromes in Diabetes Mellitus

Diabetic Sensory Neuropathy. The commonest neurological complication of diabetes is a purely sensory syndrome consisting of pain in the legs (often only nocturnal), muscle tenderness, loss of Achilles reflexes, and loss of vibratory sensation in the feet and ankles. The syndrome is usually bilateral, is symmetrical, and usually seen in diabetics of long standing not under full control. These signs and symptoms may progress proximally, involving other sensory modalities, and sometimes the arms may be affected.[9] A very early sign may be loss of vibratory sensation which can be detected only by electrical vibratory determinations.[10] Spinal fluid protein is usually elevated in those dia-

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Division of Neurology, Louisiana University School of Medicine, New Orleans, La.

betic persons with vascular disease and neurologic dysfunction.[11]

Diabetic Amyotrophy. Garland and Taverner,[12] and Garland [13, 14] have redescribed a purely motor diabetic syndrome which they feel is a manifestation of weakness and wasting of muscles. The signs and symptoms are almost invariably asymmetrical, and often unilateral. The legs are affected first and the arms are rarely involved. Fasciculations are occasionally seen. The appropriate deep reflexes are depressed or absent. The total protein of the cerebrospinal fluid is usually elevated. Bischoff,[15] in Zurich, and Sullivan,[16] in Boston, have described similar cases. The history of diabetes is usually a mild form and full recovery may occur if the diabetes is adequately controlled.

Diabetic Autonomic Syndromes. Paroxysmal nocturnal diarrhea, impotence, bladder paralysis, loss of sweating, postural hypotension, postural tachycardia, neuropathic joints, perforating ulcers.

Cranial Nerve and Other Isolated Nerve Palsies. Involvement of the isolated oculomotor, abducens, or facial nerve has been reported with recovery the rule. Some authors feel these cases are poorly documented and are a result of unrelated nervous system abnormality presenting in diabetic patients.[9]

Etiology of the Diabetic Neurological Syndromes. We must first consider here a general classification of neuropathies and understand to the best of our ability the reaction of the peripheral neurones to disordered metabolism. Greenfield [17] has offered the most logical classification of the neuropathies of any author. Peripheral nerve can react to toxins or disturbances of metabolism in a limited number of ways. Thiamine and pantothenic acid deficiency or arsenic toxicity prevent pyruvate oxidation in the metabolic cycle of glucose. Alcoholic neuritis is probably a result of vitamin deficiency with a disturbance of the co-enzyme needed to oxidize pyruvic acid formed in the breakdown of glucose. In all these instances there occurs a primary neuronal degeneration or atrophy with large fibers more affected than those of medium or smaller size and the nerve fiber more affected at its periphery than near the nerve cell body. Lead and diphtheria toxin affect the myelin before the axone and cause segmental type of demyelination.

In some forms of peripheral neuritis interstitial reaction produces changes of the perineural and endoneural tissues with pressure effects caused by focal or more diffuse infiltrations and with acute or chronic edema of the tissues. In other instances vascular damage may cut off the blood supply of some of the peripheral nerves. The neuritis associated with diabetes or porphyria may be the result of toxins from faulty metabolism, but there are features suggesting a vascular basis.

In diabetes we can postulate three hypotheses as the source of the neurological syndromes: (1) Vitamin deficiency, (2) Hyperglycemia and intermediate metabolic disturbance, (3) Ischemia from arterial changes consequent to or aggravated by diabetes.

Fagenberg [18] in a careful survey of biopsied sural nerve from diabetic patients has described changes in the vasa nervorum and he feels that a specific angiopathy may account for the neuronal changes on an ischemic basis.

Woolf and Malins [19] investigated muscle and nerve biopsies in 29 cases of peripheral neuritis, 10 of which were of diabetic origin. The degeneration of the nerve fibers took two principal forms:

1. Spherical or slightly more elongated symmetrical swellings at intervals along the course of the fiber demonstrated in vital stained and silver preparations. Woolf feels that these swellings when numerous interfere with nerve conduction. He *did not* find such changes in diabetic neuropathy.

2. A more irregular and continuous swelling and pale staining of the nerve fibers. Such changes were seen once in their cases of diabetic neuropathy, but were seen in other cases of peripheral neuritis which he felt represented an

irreversible rather than a reversible lesion.

In those cases which resemble diabetic neuropathy, the intramuscular motor fibers are typically normal up to the motor end plate. Woolf feels the essential changes in "reversible" peripheral neuritis whether diabetic or nondiabetic are at the motor end plate.

Degeneration at the end plate may take the form either of irregular or regular swelling of the terminal expansions which may fuse to form a single balloon or soap bubble-like structure. These authors find these changes in a variety of types of polyneuritis, but most obvious in diabetic neuritis. The nerve fibers themselves show no abnormality. Woolf therefore feels the term neuritis or neuropathy is misleading, and regards the disease as a dying back from the end organ to the cell body in the spinal cord or dorsal root ganglion. Regarded in this light the glove and stocking distribution of anesthesia and weakness of distal muscles which are so characteristic of peripheral polyneuritides may be considered an expression of the "dying back", commencing first at the end organs of the longest neurones.

The biochemical changes accompanying peripheral neuropathy are still poorly understood. Thompson [20] and co-workers have recently succinctly reviewed the biochemical status of the diabetic neuropathies.

Blood thiamine levels and urinary thiamine excretion have shown no significant derangement in the diabetic neuropathies, nor does clinical administration of thiamine alter the condition significantly.

Since high blood pyruvate levels are found in certain cases of polyneuritis, we should be interested in the pyruvate metabolism in diabetic patients. Thompson carried out blood pyruvate studies in 18 diabetic patients with polyneuritis. Blood pyruvate was measured before and after administration of 50 grams of oral glucose and 7 units of insulin. The fasting pyruvate levels of the diabetic patient with or without neuropathy were higher than in the normal control group and the rise in pyruvate after glucose loading was higher in both diabetic groups than in the normal patients, but the patients with neurological signs had a lower rise of pyruvate than the diabetic patients without neurological signs. He concludes that there is yet no clear evidence for regarding diabetic neuropathy as due to impairment of pyruvate metabolism.

Charity Hospital Review

During the past six months we reviewed 100 cases of diabetic patients from clinics and wards of the Charity Hospital.

These cases were unselected as regards race, sex, or complicating diseases, but chosen purely on the basis of adequate historical data, unequivocal physical findings, and good ancillary data.

We recorded evidence, substantiated by the ophthalmologist of retinopathy with typical exudates, hemorrhages, or microaneurysms, or of neuropathy which consisted of pain, paresthesiae, reflex changes, objective sensory changes, potentia changes, focal distal weakness, or focal atrophy. There was one questionable case of myelopathy, and one case showing Argyll-Robertson pupils, but this patient had definite neurosyphilis.

Most of these patients had been hospitalized prior to 1957-59. The age range was 8-79 years with mean of 46.7 years.

Our criteria for assessment of control of the diabetes was:

1. Good. Blood glucose consistently less than 130 mgm. per cent and no glycosuria.

2. Fair. The blood glucose may exceed normal values occasionally, but must not exceed 150 mgm. per cent and occasional glycosuria may occur.

3. Poor. Blood glucose usually elevated above normal and often exceeds 150 mgm. per cent and or there is almost constant glycosuria.

The data regarding these patients are shown in the following tables and charts:

Table 1.—Incidence of the neurological complications observed in this series (retinopathy or neuropathy).

TABLE 1

	Male	Female	Total
Diabetics	24	76	100
Complications	7	13	20
Incidence	29.2%	17.1%	20%

Table 2. — Neurological complications with regard to racial incidence. The incidence of diabetes and complications in the white and colored race is in keeping with the racial distribution of the patient population at Charity Hospital.

TABLE 2

	White	Colored	Total
Diabetics	39	61	100
Complications	9	11	20
Incidence	23.1%	18%	20%

Table 3 and Chart 1.—Sexual and racial incidence of neurological complications.

TABLE 3

	WM	WF	CM	CF	Total
Diabetics	9	30	15	46	100
Complications	3	6	4	7	20
Specific incidence	33.3%	20%	26%	15.2%	20%
Overall incidence	15%	30%	20%	35%	100%

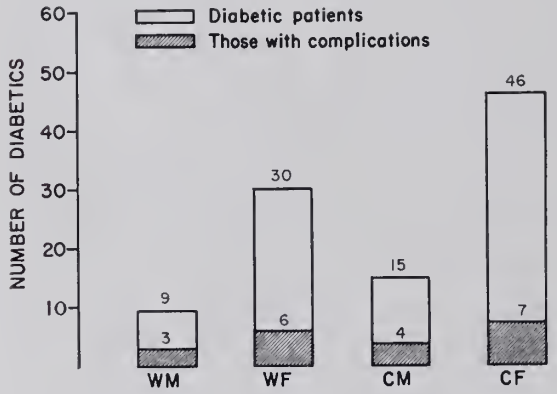


Chart 1

Table 4.—Types and incidence of neurological complications.

TABLE 4
TYPE OF COMPLICATION

	No.	%	Incidence
Retinopathy alone	11	55	11%
Neuropathy alone	6	30	6%
Both	3	15	3%

Comment

In our series of cases 11 patients had retinopathy alone, 6 patients had neuropathy alone, and 3 patients had retinopathy and neuropathy. The average time elapsing between the diagnosis of the diabetes mellitus and diagnosis of the neuropathy was 11.2 years. In the 11 patients with retinopathy the average time elapsing between the diagnosis of the diabetes melli- and the retinopathy was 13.2 years.

Our only patient with neurological complications whose disease was other than poorly controlled was a fifty year old man whose diabetic control was "fair" and who developed minimal diabetic retinopathy two years after diagnosis was established.

Forty-seven of our patients have had diabetes ten years or longer and only 12 (25.5 per cent) have developed retinopathy and 6 (12.8 per cent) have developed neuropathy.

Table 5 and Chart 2.—Relationship of neurological complications to status of diabetic control.

TABLE 5
CONTROL OF THE DIABETES

	Good	Fair	Poor	Total
Diabetics	13	18	69	100
Complications	0	1	19	20
Incidence	0%	5.6%	27.5%	20%
Overall Incidence	0%	5%	95%	

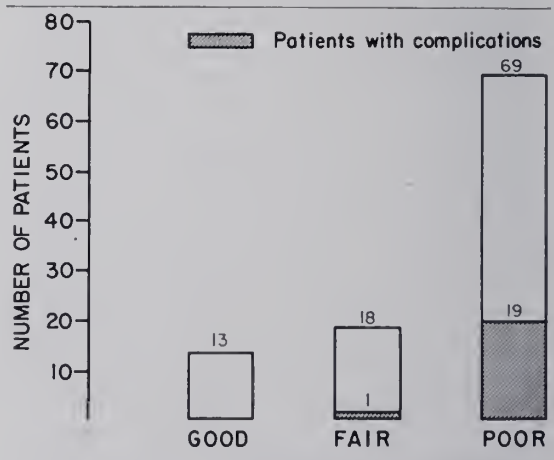


Chart 2

Joslin [21] states that "true diabetic neuritis" in most if not all instances follows a period of uncontrolled diabetes. Duncan [22] states, "peripheral neuritis in diabetes is a common complication of grossly neglected diabetes over long periods". Rundles,[3] Jordan,[4] Bonkalo,[5] Broch and Klovstad,[6] Mulder, et al,[8] and Martin,[23] all are in agreement that neurological complications of diabetes mellitus occur most frequently in diabetics who are poorly controlled.

Ellenberg [24] has recently commented that the occurrence of diabetic neuropathy casts considerable doubt on the importance of diabetic control in many instances.

He noted some inconsistencies as follows: (1) Neuropathy may occur during good control. (2) There may be the simultaneous onset of neuropathy and the symptoms of uncontrolled glycosuria. (3) The neuropathy is unrelated to the duration or severity of the diabetes. (4) Neuropathy may be the initial clinical manifestation of diabetes, unattended by symptoms of hyperglycemia and glycosuria. (5) the paradoxic precipitation of neuropathy following institution of good control by diet, insulin, or tobutamide has been observed. (6) Neuropathy may follow stress situations; in these instances, a relatively constant latent period exists (eighteen days). (Surgery, infection, myocardial infarct, barbiturate coma, corticoid therapy). This author does not minimize the importance of good control of diabetes, but feels neuropathy may be independent of the presence, degree, or duration of hyperglycemia and glycosuria, and therefore feels that neuropathy may be an integral part of the syndrome of diabetes, a concomitant feature rather than a complication.

Mulder, et al [8] in a study of 103 ambulatory diabetic patients performed neurological examination, funduscopic examination, nerve conduction velocity of ulnar, median, and peroneal nerves, and electromyography of small muscles of the hands and feet and the gastrocnemius and anterior tibial muscles. Forty-three of their patients showed unequivocal evidences of neuropathy. There was almost complete agreement between the clinical and electromyographic findings. Nerve conduction studies showed slower conduction velocities in the diabetic patients suggesting peripheral nerve alterations in diabetic patients with or without overt neuropathy. The polyneuropathies were usually seen in patients with long standing and severe diabetes, but were occasionally seen in newly discovered mild diabetics.

The preponderance of opinion seems to favor meticulous control of the diabetic state and our data reconfirms these opinions since retinopathy and neuropathy were seen almost exclusively in those patients with poor diabetic regulation (95 per cent).

Summary

1. The neurological complications of diabetes mellitus are a reflection of a total metabolic disorder.

2. The precise etiology of the neurological derangements in diabetes mellitus is at present unknown but may represent a toxic metabolic state, degenerative vascular changes of the peripheral nervous system, or a combination of both these factors.

3. The preponderance of evidence in the literature and in our present series indicates that neurological complications develop most frequently in long standing poorly controlled cases of diabetes mellitus. At present careful regulation of the diabetic state is the most beneficial method of avoiding neurological complications.

References

1. Rollo, J.: Cases of Diabetes Mellitus, London, C. Dilly, 1798.

2. DeCalvi, Marchal: Recherches sur les Accidents Diabetiques, Paris, P. Asselin. 1864.

3. Rundles, R. W.: Diabetic Neuropathy, Medicine 24: 111, 1945.

4. Jordan, W. R.: Neuritic Manifestations in Diabetes Mellitus, Arch. Int. Med. 57:307, 1936.

5. Bonkalo, A.: Relation Between Neuritis and the Clinical Background in Diabetes Mellitus, Arch. Int. Med. 85:944, 1950.

6. Broch, O. J. and Klovstad, O.: Polyneuritis in Diabetes Mellitus. Acta Med. Scan. 127:514, 1947.

7. Goodman, J. I., Baumod, S., Frankel, L., Marcus, L. J., and Wassermann, S.: The Diabetic Neuropathies. Charles C Thomas, Springfield, Ill., 1953.

8. Mulder, D. W., Lambert, E. H., Bastron, J. A., and Sprague, R. C.: The Neuropathies associated with diabetes mellitus. Neurology 11:275, 1961.

9. Garland, Hugh: Neurological Complications of

Diabetes Mellitus: Clinical Aspects, Proc. Roy. Soc. Med. 53:137 (Feb.) 1960.

10. Mirsky, I. Arthur: Carbohydrate Metabolism and Diseases of the Nervous System in Metabolic and Toxic Diseases of the Nervous System, Ass. Res. Nerv. Dis. Proc. 33:328, 1953.

11. Kutt, Henn. Hurwitz, L. J., Ginsburg, S. M., and McDowell, F.: Cerebrospinal Fluid Protein in Diabetes Mellitus. Arch. Neur. 4:31, Jan. 1961.

12. Garland, H., and Taverner, D.: Diabetic Myelopathy. Brit. M. J. 1:1405, 1953.

13 Garland, H.: Diabetic Amyotrophy. Brit. M. J. 2:1287, 1955.

14. Garland, H.: Diabetic Amyotrophy. In Modern Trends in Neurology. Ed. D. J. Williams. 2nd Ser. Paul B. Hoeber, 1957, p. 229.

15. Bischoff, A.: Zur Diabetischen Amyotrophie (Neuromyopathie). Schweiz Med. Wschr. 89:519, 1959.

16. Sullivan, John F.: The Neuropathies of Diabetes. Neurology 8:243, 1958.

17. Greenfield, J. G.: Diseases of Lower Motor and Sensory Neurones. Neuropathology. Edward Arnold, London, 1958, p. 599-610.

18. Fagenberg, Sven-Erik: Studies on the Pathogenesis of Diabetic Neuropathy, Acta. Med. Scandinav. 159: 59, 1957.

19. Woolf, A. L. and Malins, J. M.: Changes in the Intramuscular Nerve Endings in Diabetic Neuropathy; A Biopsy Study, Path. & Bact. 73:316, 1957.

20. Thompson, R. H. S., Butterfield, W. J. H., and Fry, I. K.: Pyruvate Metabolism in Diabetic Neuropathy, Proc. Roy. Soc. Med. 53:143 (Feb) 1960.

21. Joslin, E. P., Root, H. P., White, P., and Marble, A: The Treatment of Diabetes Mellitus. 9th Edition. Lea & Febiger, Phila., 1952.

22. Duncan, C. G.: Diabetes Mellitus. Diseases of Metabolism. 4th Ed., W. B. Saunders, Phila., 1959, Chap. 15.

23. Martin, M. M.: Diabetic Neuropathy, Brain: 76: 594, 1953.

24. Ellenberg, Max.: Diabetic Neuropathy: A Consideration of Factor in Onset, Ann. Int. Med. 52:1067 (May) 1960.

Discussion

Dr. Daniel W. Hayes (New Orleans): Peripheral nerve disease most often occurs in the older diabetic and in many cases is present in patients who have had relatively mild disease of several years' duration. It is to be noted, however, that many younger patients develop neuropathy within one to two weeks after first starting insulin to become well regulated.

Peripheral neuropathy that accompanies severe arteriosclerosis in diabetes is a more severe condition and has a poorer prognosis than pure diabetic neuropathy. Here we find other signs of circulatory change and severe sensory changes lead to development of burns, bruises and cuts that in the relatively avascular limb may lead to non-healing lesions.

In pure diabetic neuropathy the sensory distribution may often be asymmetrical rather than symmetrical. Motor disturbances may be less often seen. Some residual sensory symptoms may remain after improvement in many cases, even though motor signs and symptoms are usually completely cleared.

Genito-urinary and gastrointestinal neuropathy are often severe problems to the patient and the physician. These symptoms are particularly resistant to specific therapy and improvement awaits time and improvement in diabetic control.

Careful diabetic regulation must be emphasized as the *sine qua non* of treatment. As clinicians we must be ever aware of our great responsibility to bring the whole diabetic patient as close to normal as possible. This, I must emphasize, involves attaining and maintaining the ideal weight by diet, keeping the patient relatively free from glycosuria, as well as keeping the blood sugar as close to normal as possible, yet avoiding hypoglycemic reactions. The latter often produce profound and/or protracted neurologic symptoms which are dangerous. Hence there is definite need for periodic blood sugar determinations to aid in careful control of the diabetes.

Since diabetic neuropathy improves at an unpredictable rate, the physician is often pressed into administering "specific" therapy. It should be re-emphasized that from Dr. Paddison's research, and that of others, that there is no specific treatment. Though vitamins of various kinds in varying doses are often given, there is no evidence that improvement is helped or hindered in this way. Neither the patient nor the physician should deviate from the dictum of good physiological control of the diabetes in the treatment of diabetic neuropathy.

Phototoxic and Photoallergic Skin Reactions Resulting from Modern Drug Therapy*

• As valuable in therapy as many of the new drugs are, they may produce undesirable side effects when the patient is exposed to sunlight.

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ALTHOUGH it is almost two hundred years since eczema solare was first described, the mechanism of its production has only recently been understood. Interest in the condition has greatly increased over the last two decades because of the introduction of a number of new therapeutic agents and the phototoxic and photoallergic skin reactions observed after their use. These phenomena are of particular concern to dermatologists in New Orleans and other parts of the South, in which exposure to intensive sunlight occurs for a large part of the year. Characteristically, the reactions are limited to areas exposed to the sun.

One of us (B.K.) is unlikely to forget his own introduction to this type of reaction. The first time he ever prescribed sulfanilamide, he gave it to an ardent deep-sea fisherman for a gonorrheal infection. Within a short time the patient went fishing and within an unusually short period of exposure he acquired an extremely severe sunburn, limited to the unprotected areas on his face, neck, and arms. The origin of the reaction was recognized at once because skin reactions to sulfa drugs had previously been reported by other physicians in New Orleans.[1, 2] Another reason why this particular patient is unlikely to be forgotten is that, when the sunburn reaction faded away, an unexpected secondary syphilitic eruption, sharply limited to the previously sunburned areas, made its appearance.

General Considerations

About the time of this experience, Epstein's[3] studies were published. He injected sulfanilamide intradermally into six volunteers, including himself, and then subjected the treated areas to sunlight or ultraviolet light. Within twenty-four hours, an erythematous reaction had developed at the site of the injection in every instance.

Epstein applied the term phototoxic to these reactions. On the tenth day, two of the volunteers presented inflammatory urticarial reactions, with intense pruritis, at the sites of the primary reactions. For this distinctive phenomenon Epstein used the term photoallergy.

His nomenclature should be observed carefully. A reaction should not be termed allergic until it has been definitely proved to be caused by an altered state of reactivity. Until this proof is adduced, the terms phototoxic or photosensitizing should be used.

Epstein's original studies on phototoxic reactions were followed by other studies which showed that when the skin contains photosensitizing substances in the required concentration, usually in the prickle-cell layer, and that area is ex-

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† From the Department of Dermatology and Syphilology, Louisiana State University School of Medicine.

posed to those wave lengths of light which are contained in its absorption spectrum, an erythematous reaction will appear within a matter of hours, persist for a few days, and leave a residual hyperpigmentation. This chain of events may be expected whether the substance is injected directly into the skin, is placed on the skin and absorbed into the prickle-cell layer, or is ingested and carried to the skin in sufficient quantities.

Phototoxic reactions are not common. Only occasionally are the proper wave lengths combined in appropriate degrees to produce them. It must also be assumed that individual predisposition furnishes another explanation for their infrequency. Phototoxic reactions, which clinically seem no more than an exaggerated sunburn, occur in normal persons and probably vary quantitatively in proportion to the dosage of the causative agents. There is no refractory period and no fixed incubation period.

As Epstein's original studies showed, photoallergy may follow phototoxicity, though it does not always occur. On the contrary, this type of reaction seems to occur only in those persons capable of forming antibodies to the liberated metabolities. Photoallergic reactions differ from phototoxic reactions in several ways:

1. There is an incubation period, which becomes shorter with each subsequent exposure.
2. The reaction may occur in an area previously exposed but distant from the irradiated area.
3. While the reaction may take the form of an exaggerated sunburn, it may also resemble other clinical forms of allergic disease, such as papular or eczematous wheal-like reactions, with intense itching.
4. There is usually no residual hyperpigmentation.
5. Photoallergic reactions are far more uncommon than phototoxic reactions.

To date, phototoxic and photoallergic reactions have been reported after the use of a variety of therapeutic agents (Table 1). Since the sulfonamides stimulated the present interest in photosensitizing agents, and since their reactions are now well known, the present discussion will be limited to the more important reactions to certain of the related drugs which have proved of great value in modern therapeutics.

Chlorothiazide Diuretics

A phototoxic reaction does not occur with the use of the chlorothiazide diuretics diuril and hydrodiuril unless the patient has been exposed to intense summer sunlight. In New Orleans, however, this means that as early as April or even March, patients are seen almost every day with the exaggerated sunburn characteristic of this reaction. Many of these patients have been taking one or the other of these drugs for weeks and months without difficulty. They react to them only when they are exposed to intensive sunlight. The wave lengths necessary to produce this reaction (3025A and 2968A) are



Figure 1.—Acute reaction to diuril after first exposure to intensive summer sunlight, after drug had been taken without difficulty for the previous seven months.

TABLE 1
AGENTS TO WHICH PHOTOTOXIC AND PHOTOALLERGIC REACTIONS HAVE BEEN REPORTED TO DATE

Sulfonamides and Related Drugs	Phenothiazine and Derivatives	Antibiotics	Antimycotic
Sulfa Drugs	**Phenothiazine**	**Declomycin**	**Griseofulvin**
Sulfanilamide etc.	Prozine	Declostatin	
	Sparine Hydrochloride		
Aromatic Sulfonamides	Trilafon		
Chlorothiazide			
Dupres	**Phenothiazine Derivatives**		
Diuril	Compazine		
	Dartal		**Plants**
Hydrochlorothiazide	Mellaril		Oxypsoralens
Apresoline—Esidrix	Mornidine		
Cyclex	Pacatal		
Esidrix	Permatil		
Hydrodiuril	Phenergan		
Hydropres	Prolixin		
Miluretic	Stelazine		
Oretic	Tacaryl		
Oreticyl	Temaril		
Ser-Ap-Es	Tentone		
Serpasil-Esidrix	Thora-Dex		
Singoserp-Esidrix	Thorazine		
	Vesprin		
Sulfonylurea Hypoglycemics			
Carbutamide			
Tolbutamide			
Orinase			
Chlorpropamide			
Diabinese			
Others related			
Saccharin, Sucaryl			
Benemide, Diamox—acetazolamide			

present in the ultraviolet light range and thus are screened out by ordinary window glass. The preventive necessity of avoiding exposure to summer sun therefore arises only in ambulatory patients. The reaction does not occur in the many patients who require these drugs and who are hospitalized or confined to their homes.

Characteristically, the face, the V of the neck, and the dorsum of the hands are the areas of greatest involvement. Figure 1 shows a typical diuril phototoxic reaction during an acute episode. The patient, a three-times-a-week golfer, had taken diuril for more than seven months without difficulty and had his first reaction in March of this year. The necessity for destroying his identification makes it impossible to show the sharp distinction between the area of direct exposure to sunlight and the area around the eyes protected by his glasses.

Another characteristic of phototoxic reactions to chlorothiazide diuretics is the residual pigmentation on the dorsum of the hands, which is reminiscent of pellagra. Figure 2 shows this type of pigmen-



Figure 2.—Residual pigmentation on dorsum of hands many weeks after phototoxic reaction to hydrodiuril.

tation many weeks after the patient had had a phototoxic reaction to hydrodiuril.

We have observed two patients (Fig. 3)



Figure 3.—Photoallergic lichen-planus-like reactions to diuril.

who presented photoallergic reactions, resembling lichen planus, confined to the dorsum of the hands and arms, after exposure to sunlight. In each instance, rapid improvement followed termination of therapy, and subsequent exposure to sunlight was well tolerated.

As in the cases reported by Harber and his associates,[4] we have observed a patient who presented an erythema in a site not presently exposed, but previously the site of a phototoxic reaction. The reaction occurred after both unfiltered sunlight and carbon arc radiation used as a provocative test. This type of reaction, which is observed in only a small number of patients, is produced by circulating allergens and constitutes photoallergy rather than phototoxicity.

In still another patient photoallergy rather than phototoxicity was thought responsible for the reaction. When he was treated with a sulfa drug in 1940, he had developed a generalized toxic erythema. In June 1960, after a coronary attack, he was placed on diuril, which he tolerated well until April of this year. Then, when he began to take sunbaths, an eczematous type of eruption appeared on the exposed areas of the body, which promptly disappeared when the drug was discontinued.

Sulfonylurea Hypoglycemics

The present use of the sulfonylurea hypoglycemic drugs in diabetes developed from the hypoglycemic reactions observed in some patients on sulfa-drug therapy. The three agents so far developed, carbutamide, tolbutamide (orinase), and chlorpropamide (diabinese), which is the newest and most popular, have all produced phototoxic reactions. We are seeing such patients almost daily both in the office and in the outpatient dispensaries of the New Orleans Charity Hospital.

Figure 4 shows a patient with an exaggerated sunburn type of reaction which occurred March 15 of this year, after prolonged exposure to sunlight. He had taken diabinese for his diabetes for the previous



Figure 4.—Exaggerated sunburn type of phototoxic reaction after prolonged exposure to sun seven months after diabinese had been taken without difficulty.

seven months without any sort of reaction. We have observed another patient who had a phototoxic reaction to diuril after she had gone into shock on two previous occasions, after taking diabinese on one and orinase on the other.

In the folio of information distributed by the producer of diabinese, the possibility of skin reactions to the drug is mentioned but the risk of excessive exposure to the sun is not. Information released on diuril does mention the risk of phototoxicity. It would be well for the producers of all such agents to call attention to this possibility.

It might be added that we have observed four patients who were phototoxic to either saccharin or sucaryl.

Phenothiazine Drugs

Psychiatrists at the New Orleans Charity Hospital first called our attention to the fact that the phenothiazine drugs, compazine and thorazine were sometimes highly phototoxic in ambulatory patients. Our experiences with them are similar to those just described for diuril.

One particularly interesting patient in this group had a history of lupus erythematosus twenty-five years earlier, which had been controlled for the past ten years. She developed a transfusion hepatitis after removal of a breast and was given compazine to control her nervousness. Shortly afterward, after a brief exposure to sunlight, a lupus erythematosus-like reaction occurred on the face, neck and arms, and only on exposed areas.

Antibiotic Agents

Our experience has included only three instances of photosensitivity to antibiotic agents, in each instance declomycin. Figure 5 shows another ardent fisherman, who was given this drug in 250-mg. doses four times daily. On the third day, he had an intensive two-hour exposure to sunlight. It is interesting to note the areas of involvement and their degree. The left side of the face was more severely burned than the right side because the exposure was more prolonged. He wore a golf glove which only partly covered the back of his hand, as is shown by the sharply limited outline of the reaction.





Figure 5.—Photosensitizing reaction to declomycin, showing area of greater intensity caused by greater exposure (left side of face) and effect of protection (dorsum of hand).

Control Measures

All the reactions discussed are due, as already pointed out, to a combination of two factors, ingestion of a special drug plus intensive exposure to sunlight as a source of energy. It might seem, on the surface, that the reaction could readily be controlled by either discontinuing the drug or by avoiding exposure to sunlight. The response to neither of these measures

is as prompt and complete as might be expected.

Simply discontinuing the causative drug is not always the solution. Often, particularly when one is dealing with hypertensive patients, it is difficult to substitute for the offending agent another drug which does not introduce the same problems. A great many of these extremely useful compounds are closely related to each other. We have found that when the reaction does not disappear when the causative agent is stopped, particularly when photoallergy is suspected, a prolonged course of aralen diphosphate may be of great benefit.

Avoiding sunlight in New Orleans is not always a simple matter. Sun screens containing Paba and other agents which reduce or scatter sunlight, have been, in our experience, of only moderate help.

Summary

Phototoxic and photoallergic skin reactions have become of increasing importance in the last two decades, since the introduction and wide use of many new therapeutic agents. The reactions to certain of these drugs are discussed, with illustrative case histories. The obvious control measures—discontinuance of the offending drug and avoidance of sunlight —are not always as simple to apply as, superficially, they might seem.

References

1. Menville, J. G., and Archinard, J. J.: Skin Eruptions in Patients Receiving Sulfanilamide, J.A.M.A. 109:1008, 1937.

2. Tedder, J. W.: Toxic Manifestations in the Skin Following Sulfanilamide Therapy. Arch. Dermat. & Syph. 39:217, 1939.

3. Epstein, S.: Photoallergy and Primary Photosensitivity to Sulfanilamide, J. Invest. Dermat. 2:43, 1939.

4. Harber, L. C.; Lashinsky, A. M., and Baer, R. L.: Skin Manifestations of Photosensitivity Due to Chlorothiazide and Hydrochlorothiazide, J. Invest. Dermat. 33:83, 1959.

Discussion

Dr. Leslie K. Mundt (New Orleans): Dr. Kennedy is an authority on drug eruptions. He has studied its various phases over a period of many years, and has written extensively on the subject.

The problem of drug reactions has always been with us. Year after year it becomes more complex and troublesome as new drugs and procedures are developed and introduced. I believe it is a fair statement to say that there has never been a drug that would not react badly in some individuals. No drug is completely safe for all patients and, therefore, one should be on guard when prescribing the old drugs, and especially alert and cautious when prescribing the new ones.

I feel that it is improvident to jump from drug to drug simply because it is claimed that the latest preparation has some minor advantage over the tried and tested older one. One should neither abandon the old or try the new merely for the sake of change.

Drugs, to most of us who prescribe them, become very much like old friends. The physician learns what each drug can and cannot do, and experience with certain favored drugs teaches one to use them properly and safely. Therefore, there should be a compelling reason to justify a change.

In general, I think one should suspect a drug reaction when there is a sudden, brightly erythematous, widespread explosion of lesions on the skin. In spite of the extent of the eruption, there is generally a remarkable dearth of systemic symptoms.

For years there has been confusion in the nomenclature in connection with drug reactions. Dermatitis medicamentosa refers to a skin reaction produced by an internally administered drug. Externally produced, the eruption is called dermatitis venenata or contact dermatitis.

Dermatitis medicamentosa is an exceedingly complicated problem because there is no characteristic symptomatology or pathology, and no single test to detect a possible reaction with any degree of certainty. The tests, in this regard, are so unreliable as to be almost valueless.

Any drug can cause almost any type of skin reaction, including urticaria, bullae formation, exfoliative dermatitis and many others. The same drug often produces a varying reaction in different individuals. So it can be very confusing at times.

Drugs may enter the body through inhalation, injection, instillation and ingestion. Tests for a possible adverse reaction are unreliable because it is often the breakdown products that cause the trouble.

Pillsbury points out that it is commonplace to consider all drug reactions as allergic phenomena. This simply is not so. He points out several examples of drug reactions that are not of allergic origin, and these include:

1. Direct toxic effect (gold and arsenic).
2. Overdose of a drug ordinarily considered safe (too much atabrine turns the skin yellow; too much ergot causes gangrene).

3. Intolerance to drugs. (Symptoms from small doses ordinarily to be expected from large amounts).
4. Idiosyncrasy—an abnormal tissue reaction, such as a fungating bromoderma.

One should remember that skin eruptions are only one form of drug reaction. Any tissue or organ can be affected.

Grand Fun. Pigeon Shooting and Vivisection

There lies before us a copy of **The Olympian**, published in San Francisco, and devoted mainly to sports of various kinds. Most of these sports are unexceptionable and may do good to persons who have plenty of time and no better use for it. Not so, however, with "Pigeon Shooting," the descriptions of which remind one of the old Mexican bull-fights which were suppressed by law as too barbarous for modern civilization in California. Five shooting matches are described, at each of which two or three hundred birds were the subject of the "fun." * * * Looking from the standpoint of these sportsmen we think that "fun" would be promoted by a revival of the old bull-fights. These would have the advantage over pigeon shooting in risking the lives of only two animals at a time, a bull and a bear, or a bull and a man, and it would not be absolutely necessary for either to be killed. We have always thought history exceedingly unjust to Domitian in citing as an evidence of his cruel disposition that he derived amusement from killing flies * * * And here let us hazard a word of counsel to our vivisectionists—to abandon the claim that they mutilate an occasional cat or dog for the sake of science, and profess to do it for "fun."

New Orleans M. & S. J. 10:366 (Nov.) 1882.

The Risks of the New Psychotropic Drugs*

• These drugs have undesirable as well as beneficial effects.

GENEVIEVE A. ARNESON, M. D.†
New Orleans

AT the present moment we have 66 different psychotropic agents available to the medical profession, and probably by the time I complete this presentation, we will have 67. Three out of ten prescriptions that are written today are for some sort of tranquilizer. It is estimated that over 500 million dollars were spent last year in this country for this type of medication.

As you can imagine from these figures, the competition amongst the various drug companies for this market is extremely keen, and the physician is virtually deluged with literature, reprints, detail men and assorted propaganda in an effort to induce him to prescribe one or another of these drugs for his patients. Also, as has occurred in other areas of our consumption-oriented society, it would seem almost as though the value of the actual product itself becomes secondary. Popularity and the consequent financial reward to the pharmaceutical manufacturer depend more upon effective advertising in the form of packaging, "hidden persuasion," catchy names, and other Madison Avenue techniques.

At any rate, we physicians find ourselves in a veritable jungle of tangled claims and counterclaims for various of these medications. Writing recently in Clinical Pharmacology and Therapeutics, Walter Model asked: [1]

"Will they realize that there are too many drugs for the patient, for the physician, and surprisingly enough, for the pharmaceutical industry? New drugs are often introduced, not because they are better than existing drugs or because there is a real need for them, but to 'horn' in on a market which has been created by someone else's discovery."

Dr. Model recommends that manufacturers exercise self-restraint by making and marketing only the single best drug for each purpose and cross license one another to spread both risks and profit. These comments, it seems to me, very much apply to the present situation with the new psychotropic drugs.

Risks of the Psychotropic Drugs

A. **"Psychological"**

1. The use to abort or distort normal emotional reactions.
2. "Unmasking" or "uncovering" a psychosis—Ex. psychokinetic effects of certain antidepressants.
3. Addiction—Reported with meprobamates and chlordiazepoxide—(Withdrawal → hallucinosis → seizures)—No definite tolerance reported.
4. Suicide.
5. Unpleasant subjective "feeling states."

B. **"Physical"**

1. Peripheral
   a) Allergic manifestations
      (1) Dermatitis—photosensitivity
      (2) Urticaria—nasal congestion
      (3) Hematopoietic depression—leukopenia, agranulocytosis
   b) Autonomic imbalance
      (1) Hypotensive phenomena
      (2) Cardiac rate and rhythm disturbances
      (3) G.U. and G.I. disturbances—Ex. constipation, activation of peptic ulcer, frequency, dysuria, etc.
      (4) "Hepatitis"—secondary to cholestasis

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* Presented as part of a panel discussion, June 13, 1961, at meeting of the Orleans Parish Medical Society.

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(5) Dry mouth—thick tongue
(6) Flushing
(7) Drooling
(8) Increased intraocular pressure.—Ex.—the "atropine effect" of imipramine
(9) Blurred vision
(10) Edema
(11) Impotence

2. Central or C.N.S. side effects
a) Extrapyramidal side effects—38.9 per cent morbidity (most common with aromatic phenothiazine derivatives)
(1) Akathisia—21.2 per cent
(2) Parkinsonism—(classical signs and symptoms) 15.4 per cent
(3) Dyskinesias—2.3 per cent Ex. oculogyric crises, trismus, torticollis, other dystonic phenomena, athetoid movements, etc.
b) Potentiation of other sedatives, Ex. alcohol, barbiturates.
c) Convulsive seizures
d) Menstrual disturbances—probably on the basis of suppression of ovulation via hypothalmus → anterior pituitary → ovary.

I have arbitrarily divided the risks into two major categories: A. The "psychological risks," and B. The "physical" risks.

Psychological Risks

Under psychological risks I have listed first of all, the use of these agents to abort or distort normal emotional reactions. In this so-called "age of anxiety," there is seemingly an intense need for everybody to be happy and tranquil at all times and under all circumstances. For example, medical students frequently ask me what tranquilizer I would recommend for them to take to "get through" an examination. It is difficult for me to be sympathetic with these requests since I, personally, had to take all my examinations more or less "cold turkey."

We psychiatrists feel that a certain amount of anxiety or occasionally feeling "down in the dumps" is quite normal, often useful and an essential aspect of human existence. We also feel that in situations of increased emotional stress, for example, in a bereavement, it is usually more therapeutic to allow the individual to mourn, to externalize and deal with his grief rather than to suppress or deny it by means of a pill, possibly to have it return later in the form of a psychosomatic illness or a severe depression.

The second psychological risk that I list is the unmasking or uncovering of a psychosis, the so-called "psychokinetic effect" seen with some of the antidepressants. Here you may relieve a depression only to wind up with a delusional, hallucinating patient. This has been reported, as stated, with some of the anti-depressant drugs and one must take this into consideration when prescribing these types of medication.

The third psychological risk is "addiction." This is placed in quotes since this is quite an arbitrary classification. Although as yet no definite increase in tolerance with prolonged use has been reported with any of the psychotropic agents, there have been withdrawal symptoms reported in groups of patients on particularly high doses of the meprobamates (Equanil,®), (Miltown®) and chloradiazepoxide (Librium®).[2]

The dosages utilized in this group of patients was 2 to 10 times the usual dosage and upon withdrawal of the drug some of these individuals experienced severe anxiety, tremor, hallucinosis, seizures, and other withdrawal symptoms of a true addiction. More particularly, we are concerned with the fact that many patients who feel the need of these medications, frequently become quite dependent on them psychologically. These types of patients tend to utilize these drugs more and more to meet everyday problems of living which, under normal circumstances, the individual should tolerate without requiring pharmacological assistance.

I want to mention briefly some of the subjective sensations of which some patients complain that often result in their refusal to continue taking the tranquilizers. Patients describe these sensations as a disagreeable lassitude; viz., "No ambition," "don't care," "an all gone feel-

ing," "floating;" awareness of the environment yet no real emotional involvement with it.

For certain individuals these sensations are distinctly uncomfortable and for many, intolerable, particularly paranoid and obsessive - compulsive personalities who like to keep the environment in sharp focus. This group of patients prefer a moderate degree of anxiety to experiencing these sensations. The paranoid personality occasionally may develop outright persecutory delusions regarding his muted perceptions and the hazy vagueness that is present secondary to these medications. The risk here is primarily to the physician in that the paranoid patient may incorporate the doctor into a delusional system as the agent of these disturbed sensations via the prescribed pill or capsule. Fortunately, most of these patients simply refuse to take the medication but this is something the doctor must consider before he blithely dispenses these powerful and seemingly magical drugs.

The fourth psychological risk that I list is suicide. This is a self-evident risk with the antidepressants. Frequently, depressed patients will take these medications in overdosage and make suicide attempts. On the whole, the psychotropic drugs are not as lethal as some of the other drugs that are often taken in overdosage; for example, the barbiturates. However, deaths have occurred as a result of taking these medications in extreme overdosage.

Physical Risks

In the second major category of risks, the physical side, again I have further divided these into the "peripheral" and "central" side effects. First of all, the allergic manifestations. Many of the psychotropic drugs resemble histamine in their chemical structure. As you may know, chlorpromazine (Thorazine®) was originally developed as an antihistaminic. Consequently, many of them are prone to produce allergic phenomena. Usually these phenomena occur within a few days after starting the medication and are reversible upon discontinuance of the medication or the administration of one of the antihistaminic drugs. The major allergic symptom is dermatitis; this is most common with the phenothiazine derivatives and is particularly prone to occur if the patient is exposed to direct sunlight, especially during the summer months. If you have a patient on relatively high doses of these medications, it is advisable that he stay out of direct sunlight. Urticaria has been noted and also nasal congestion with some of these drugs.

Another fairly rare "allergic" or perhaps a directly toxic effect in certain patients, is hematopoietic depression. Usually this involves the myeloid elements of the bone marrow with leukopenia and occasionally agranulocytosis has been reported. Thrombocytopenia pupura has also been seen on rare occasions.

The second group of physical, peripheral side-effects is a large one. These side-effects are the result of autonomic imbalance. It is fairly well established at the present time that many of the psychotropic drugs "release," "block," "antagonize," "compete with," etc., the neurohormones of the central nervous system particularly serotonin and/or norepinephrine. Both of these substances have been found in greatest concentration in the hypothalmus and also in other areas of the brain associated with "emotions." Additionally, it is believed that serotonin is involved in mediating impulse transmission of parasympathetic synapses and norepinephrine, sympathetic synapses. At any rate, as a result of interfering with the action of these neurohormones many of the psychotropic drugs may have accompanying sympatholytic and/or parasympatholytic effects.

I have listed, first of all, hypotensive phenomena, usually manifested by vertigo, syncope, "cold sweats," "feeling of impending doom." In older individuals with "brittle" cardiovascular systems, a sudden cerebral vascular hypotension secondary to these medications, could precipitate a cerebral vascular accident by slowing the

vascular stream and enhancing the possibility of thrombotic phenomena.[3]

The second autonomic imbalance I list is "hepatitis." The parasympatholytic effect on the smooth muscle of the bile ducts and bile capillaries can result in pile up of bile and an "obstructive jaundice" in some patients. If the obstruction is not relieved eventually hepatic cellular damage can occur. However, the drugs are usually discontinued immediately, the patient becomes jaundiced. In addition, the monamine oxidase inhibitors are thought to produce direct hepatocellular damage in susceptible patients and several of these drugs have been withdrawn from the market on this account.

Other side-effects resulting from autonomic imbalance are cardiac rate and rhythm disturbances, various G.U. and G.I. disturbances, particularly constipation. Activation of a quiescent peptic ulcer has been reported with some of the sympatholytic tranquilizers. Dry mouth, or, on the other hand, drooling, peripheral vasomotor phenomena, flushing, etc. have been noted. Another one is increased intraocular pressure secondary to the "atropine effect" of some of the antidepressants. Imipramine (Tofranil®) has been known to increase intraocular pressure and aggravate glaucoma.

Also on the basis of parasympatholytic mydriasis—blurred vision. Another rather rare side-effect that has been reported is edema. The only patient that I have seen that has manifested edema was a patient who was suffering fairly severe extrapyramidal side-effects secondary to a phenothiazine derivative. This young colored female presented a 4+ bilateral pitting pedal edema. At the time, we speculated that the edema could be secondary to the extreme muscular rigidity present which impeded venous return from the lower extremities especially, since it disappeared upon administration of an anti-Parkinsonism drug which relieved the muscular rigidity.

A more generalized intracellular edema has been reported by Escoute.[4] This investigator felt that in his case, edema formation was secondary to electrolyte imbalance. His patient was drooling excessively and consequently losing large quantities of potassium ion in the saliva. The hypokalemic stimulus to sodium and water retention produced an intracellular nonpitting type of edema; the same as is frequently seen with corticosteroid therapy. This side-effect was treated successfully by the administration of KCl. I mention this latter in some detail simply to illustrate the complexity of side-effects that can be produced with these drugs; i.e., side-effects that produce side-effects. Impotence is another rather disturbing side-effect which can occur—again apparently secondary to parasympatholysis.

The second major group of "physical" side-effects I have listed as the central, or C.N.S. side-effects. First of all, the extrapyramidal side-effects. These effects are probably the most dramatic and well publicized of all the side-effects produced by the psychotropic agents, with the result that there has been a great stimulus amongst the pharmaceutical companies to produce and publicize anti-Parkinsonian medications. At the present time there are somewhere around a dozen different synthetic anti-Parkinsonian drugs available. Prior to 1955 B.C. (before chlorpromazine), the PDR listed six.

Ayd has recently studied the morbidity of extrapyramidal side-effects in some 3,000 patients on phenothiazine derivatives.[5] He found that 38.9 per cent of these patients manifested one or another of the extrapyramidal side-effects. Most commonly implicated were the aromatic phenothiazine derivatives; namely prochloperazine (Compazine®), trifluoperazine (Stelazine®), perphenazine (Trilafon®), fluphenazine (Permitil®, Prolixin®).

The extrapyramidal side-effects can be divided into three groups: first, Akathisia—21.3 per cent. This term, derived from the Greek kathisis—a sitting— literally means the inability to sit down—the patient is in constant motion, unable to sit still. The problem here is that this behavior may be mistaken for an increase

in agitation and the dosage of the medication increased, rather than recognizing it as a side-effect and either reducing the dosage or counteracting the side-effect with an anti-Parkinsonian drug. The second extrapyramidal side-effect listed is Parkinsonism, with a morbidity of 15.4 per cent. This presents as the classical Parkinson syndrome with the characteristic festinating gait, muscular rigidity, or pill-rolling tremor, mask-like facies, etc.

A third group of extrapyramidal side-effects is the dyskinesias with an incidence of 2.3 per cent. These side-effects are probably the most frightening of the side-effects, as far as the patient is concerned. Many times they come on rather suddenly in the form of oculogyric crises, muscular spasms—trismus, torticollis, dystonic phenomena, athetoid movements, etc. Often the accompanying muscular rigidity and spasm are extremely painful and frightening to the patient. One general practitioner whom I know had a child patient on prochlorperazine. The doctor went away for a weekend holiday and during his absence the child developed trismus and it was thought that the child had tetanus. The patient was in the process of receiving a course of tetanus anti-serum, when fortunately, the doctor returned, realized that this was a side-effect of the medication, and was able to treat it less riskily and certainly more effectively with one of the anti-Parkinsonian drugs.

A third central effect I have listed is convulsive seizures. Many of the psychotropic drugs are taken up or concentrated in the hypothalmus. Another of their actions apparently is to reduce the discharge threshold of the neurones in those areas, with the result that these drugs can then trigger off a generalized discharge resulting in a typical grand mal seizure. Occasionally the discharge remains focal and a Jacksonian seizure may occur.

The fourth central effect that I want to mention is on the menstrual cycle. Female patients on high doses of some of these medications, particularly the phenothiazines, will often skip a menstrual period. This effect is probably on the basis of suppression of ovulation via the diminution of hypothalmic stimulation to the anterior pituitary to the ovary. If the patient is continued on medication eventually she will have an anovulatory period but may miss as many as two or three periods. At any rate, there is no question that these medications can interfere with hormonal balance via their suppression of the hypothalmic pathways.

Conclusion

I have thus in a brief span of time, tried to present a very complicated and comprehensive subject. I hope that I have helped in a small way to elucidate some of the risks of the new psychotropic drugs —a group of drugs that encompass such a wide range of side-effects.

References

1. Modell, Walter: Quote from Medicine Section, Time Magazine (May 26) 1961.

2. Hollister, L. E.: Complications from Psychotherapeutic Drugs. New England J. of Medicine, 264:345 (Feb. 16) 1961.

3. Arneson, G. A.: Hazards in Tranquilizing the Elderly Patient. Am. J. Psychiatry, 115:163 (Aug.) 1958.

4. Ayd, Frank J., Jr.: A Survey of Drug-Induced Extrapyrdamidal Reactions. J.A.M.A. 175:102, (March 25) 1961.

5. Escoute, R.: Troubles du Metabolisme du Potassium au Cours des Traitements par les Neuroleptiques. Algérie Médicale, 64:145 (Feb.) 1960.

Severance of the Common Bile Duct Due to External Blunt Trauma*

• A rarely encountered form of injury, but one which may be expected to increase with the large number of steering wheel injuries occurring today.

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DIRECT blunt trauma to the abdomen occasionally results in rupture of some part of the extra-hepatic biliary system. Mason, et al.[5] reviewed the literature in 1954, and estimated that less than one hundred cases had been reported. In recent years the reported incidence is on the increase. This is partly attributable to increasing awareness of and recognition of this injury. However, the real incidence undoubtedly is on the increase paralleling the increasing speeds of modern travel and the number of serious traffic accidents. A rarely encountered form of this injury is complete severance of the common bile duct, a case of which forms the basis of this report. This type of injury likewise can be expected to show an increasing incidence, particularly in association with the large number of steering wheel injuries occurring today.

Case Report

P.M., an 18 year old high school football player weighing 265 pounds, was brought to the emergency room on February 6, 1960, after the automobile he was driving crashed into the side of a train standing across a railroad crossing. The impact was sufficient to demolish the automobile but the patient's injuries appeared at first to be relatively minor. He was not unconscious at any time and was able to walk into the emergency room. Physical signs of injury were limited to multiple contusions and abrasions about the face, chest and upper abdomen. The only sign of abdominal injury was a faint band of discoloration across the upper abdomen due to contusion by the lower part of the steering wheel. X-ray examination of the chest and abdomen was essentially negative.

The patient was admitted for observation. After several hours, he began to exhibit an increasing pulse rate, a declining blood pressure and definite signs of peritoneal irritation in the upper abdomen.

Laparotomy was performed about fifteen hours after admission. Reasoning that splenic injury was a reasonable possibility in this case, a left paramedian incision was chosen for the abdominal exploration. On entering the abdomen, the upper right portion of the abdominal cavity was found to be filled with a mixture of blood and bile. A small laceration was present in the anterior part of the right lobe of the liver, with a firm clot in place. Considerable bile staining and early peritonitis was present about the first and second portions of the duodenum. The second portion of the duodenum was mobilized by incising the lateral peritoneal reflexion and, in the process in doing so, the common duct was found to have been completely severed. The duct was noted to taper down, at the site of severance, to only 3 or 4 mm. in diameter. For a distance of about 4 cm. proximal to the site of severance, the common duct was lying free, detached from all surrounding tissues, this appearance suggesting that the duct had been forceably avulsed from its course behind the duodenum and had separated near its entrance into the duodenum. There was ecchymosis extending into the layers of the transverse mesocolon near the hepatic flexure. The hepatic flexure was mobilized and inspected for signs of injury to the colon itself. None was found, nor was any gas leak demonstrated.

Primary reconstruction of the common bile duct did not seem to be a wise procedure in this situation. Working with a small duct in an extremely obese patient through an incision not quite ideally placed would almost certainly have resulted in an unsatisfactory anastomosis. The end of the common duct therefore was ligated and, after demonstration of an adequately patent cystic duct, an anastomosis was made between the gall bladder and a loop of the upper jejunum. Consideration was given to performance of a jejunojejunostomy below this anastomosis or to employment of the Roux-en-Y meth-

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od, but it seemed wise to limit the number of lines of anastomosis to the absolute minimum in the presence of early peritonitis. Several large Penrose drains were placed in the subhepatic area and behind the hepatic flexure, and were brought out through a stab wound in the right flank prior to closure of the abdominal wound.

The patient's post-operative course was complicated by two injuries not recognized at the time of laparotomy. Seven days after the operation, the drainage from the right flank stab wound became foul smelling and rapidly changed in character to gross feces. This drainage fortunately remained confined to a small portion of the peritoneal cavity and the patient's ability to take oral nourishment was uninterrupted. The right flank stab wound was enlarged at a second operation to insure free drainage of the fecal material. The fecal fistula drained progressively less and closed spontaneously in one month.

The second unrecognized injury made itself manifest during the second and third weeks following laparotomy. The patient developed signs of a left subdiaphragmatic abcess associated with left pleural effusion. This abcess was drained on the twenty-first hospital day through the bed of the resected left 12th rib. Semipurulent debris and pieces of necrotic pancreatic tissue were obtained from this space. Cultures of the material showed no growth. Several large Penrose drains were left in the subdiaphragmatic space. The left pleural fluid was removed by thoracentesis on two occasions and this fluid likewise showed no growth on culture. Drainage of necrotic fat and pieces of necrotic pancreatic tissue from the left subdiaphragmatic space continued for about two weeks, followed by decreasing cloudy serous drainage for an additional two weeks, followed by healing of this drain site.

The patient was discharged from the hospital approximately two months after admission, lighter by 35 pounds, still quite weak to be sure, but grateful to be alive.

Following discharge from the hospital, his recovery was progressive and uneventful. He has regained most of his loss in weight, has resumed weight lifting and some contact sports. He is determined to resume football in the coming year.

It has been over a year since this patient's operation and he has had no symptoms attributable to the anastomosis chosen for diversion of this biliary flow. Barium study of his upper gastrointestinal tract has shown free transit of barium into and out of the gall bladder (See Figure 5).

Comment

The mechanism of injury to the bile ducts by blunt trauma has been the subject of speculation by several authors. Although most instances occur following direct trauma to the anterior part of the abdomen, Deaton and Troxler have pointed out that these injuries may occur by a "contra coup" mechanism and have reported a case to substantiate this fact in which the patient suffered severance of the cystic duct following a blow to the left lower chest.[2]

There is general agreement that a sudden rise in intra-biliary pressure may either rupture the ductal system or may fix the walls of the ducts in maximum distention and thus make them more vulnerable to any shearing or stretching force. Sudden compression of the duct against the vertebral column is one possible mode of injury. Complete severance of the common duct probably results from the combination of at least two factors. It seems most likely that rapid movement of the large inertial mass of liver away from the relatively fixed duodenum and pancreas could easily avulse and sever an over-distended common duct.

There seems not to be any uniformity in methods of management of this type injury as evidenced by the few reports. The cases of Battle [1] in 1893, and Spencer [6] in 1898, were operated upon several days after injury and were treated by simple drainage of the bile collection. Both patients died and the exact nature of injury was discovered at autopsy. Lysaght [4] evidently reported the first surviving case in 1939, utilizing cholecystogastrostomy to establish a new bile passageway (See Figure 1). Donald and Donald [3] in 1958, and Tolins [7] in 1959, reported primary repair in different portions of the duct (See Figures 2 and 3). The patient herein reported was treated by cholycystojejunostomy with ligation of the proximal end of the severed duct (See Figure 4).

In dealing with injuries such as this, in which the common duct is completely divided, it is only natural that the surgeon should think first of trying to restore

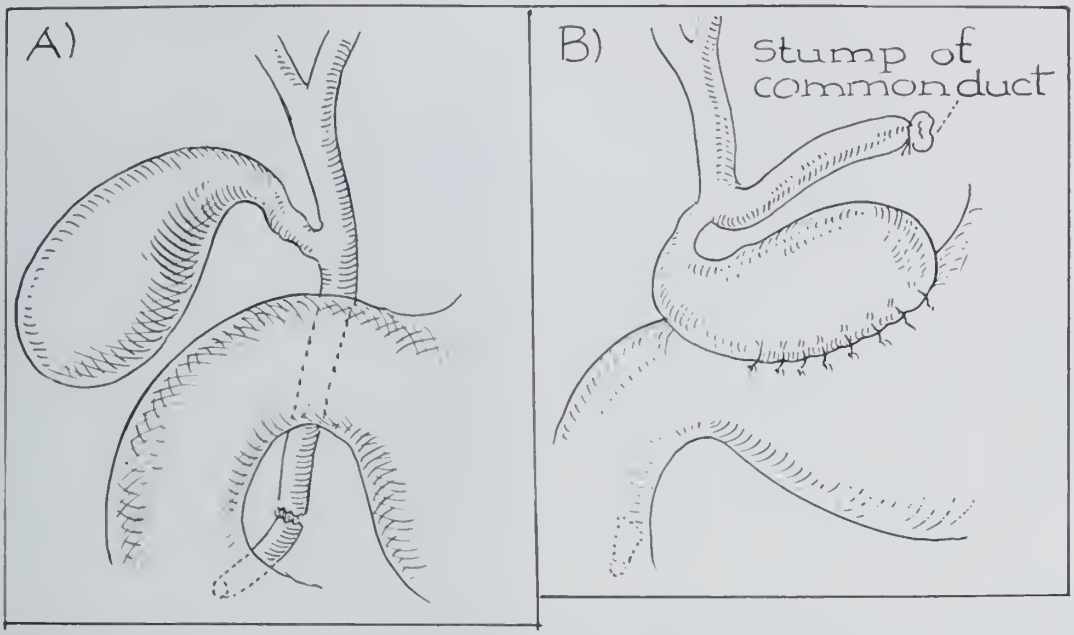


Figure 1.—Lysaght, 1939 [4] — Cholecystogastrostomy. Two month follow-up — asymptomatic.

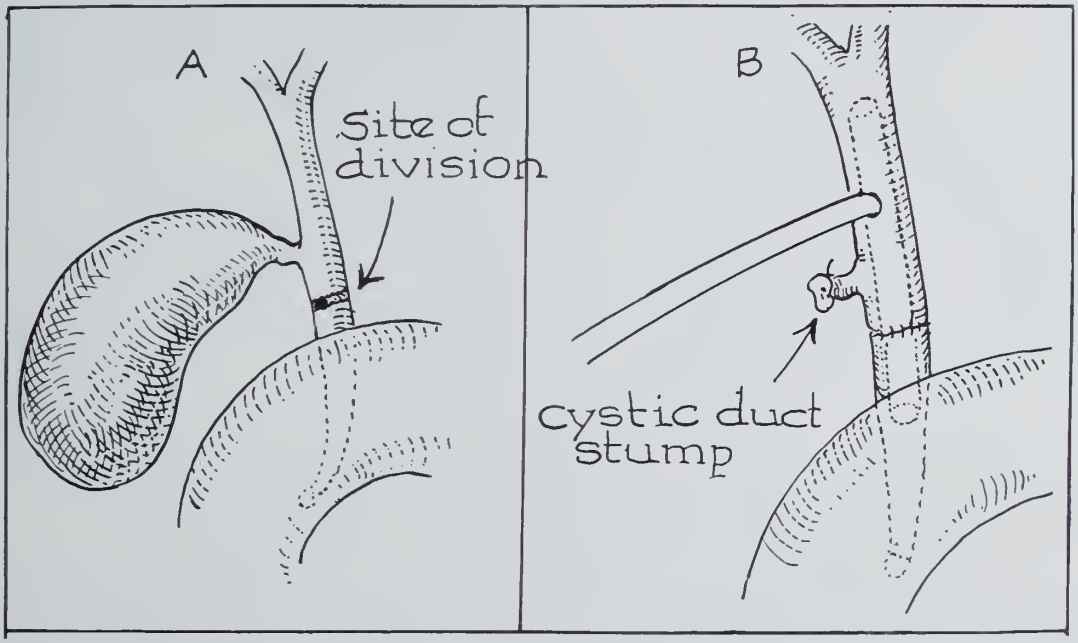


Figure 2.—Donald and Donald, 1958 [3] — Primary anastomosis of common bile duct and cholecystectomy. One year follow-up—no complications.

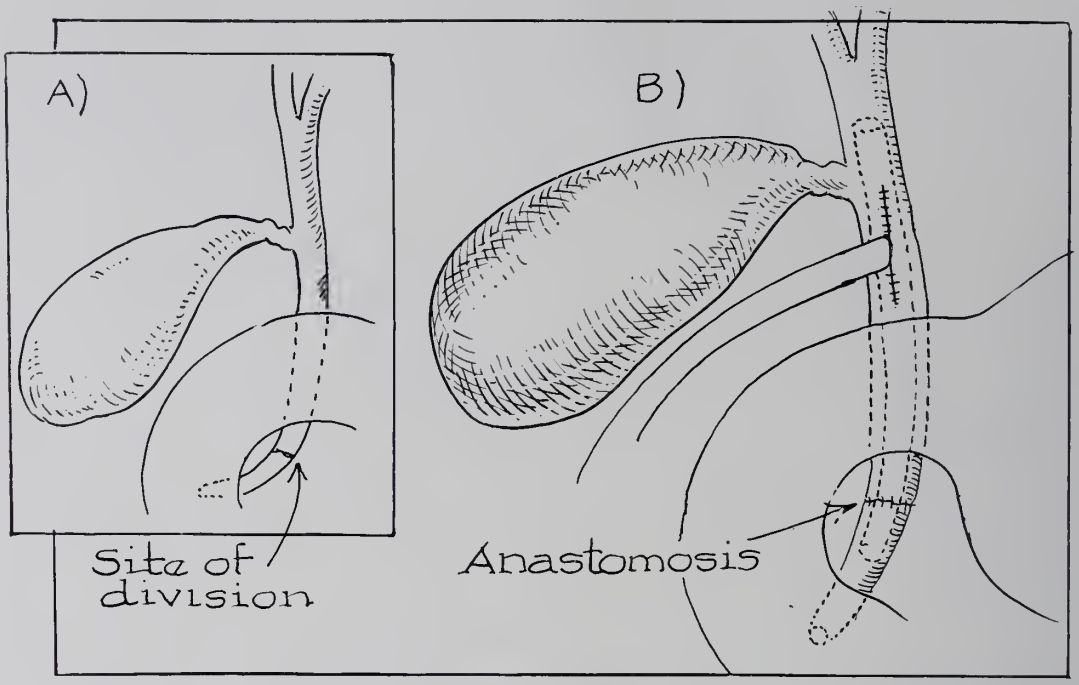


Figure 3.—Tolins, 1959 [7] — Primary anastomosis of distal common duct. Six months follow-up—asymptomatic.

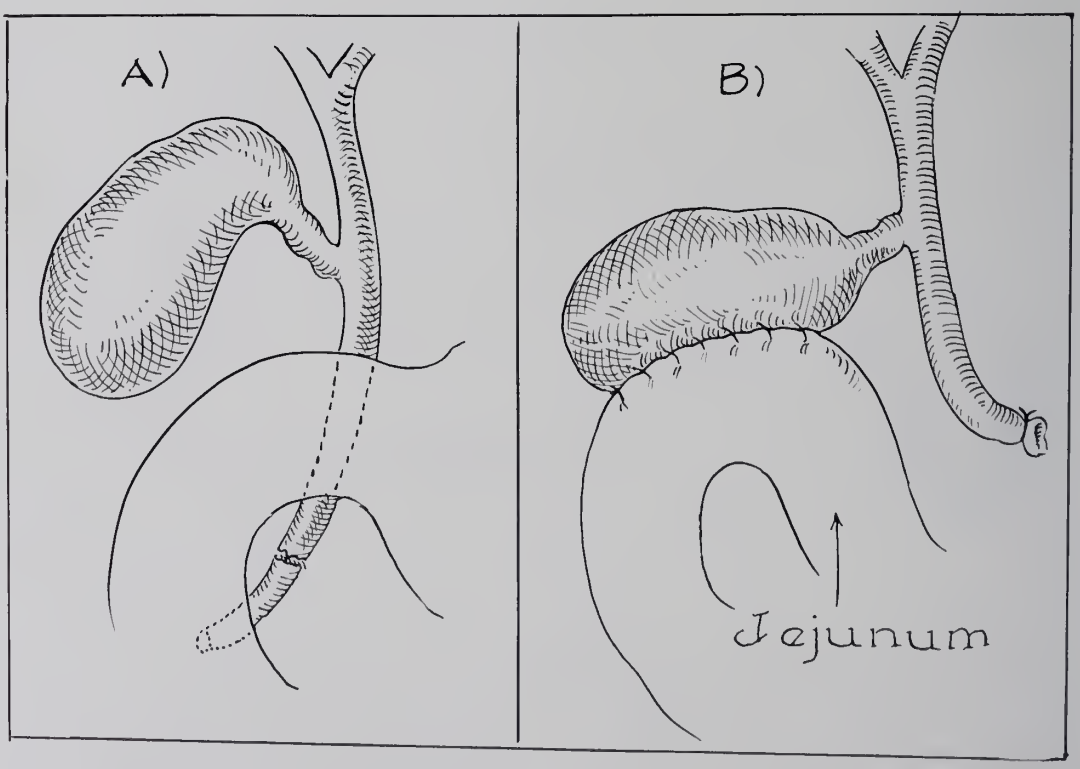


Figure 4.—Stewart, 1960 — Cholecystojejunostomy. One year follow-up — asymptomatic.

the anatomy as nearly as possible to its former state, and perhaps it is a point of pride to be able to do so. However, it should be remembered that if the cystic duct is of sufficient patency, the gall bladder will serve well as a biliary passage and will generally provide sufficient area for creation of a much larger anastamotic stoma to an appropriate part of the upper gastrointestinal tract.

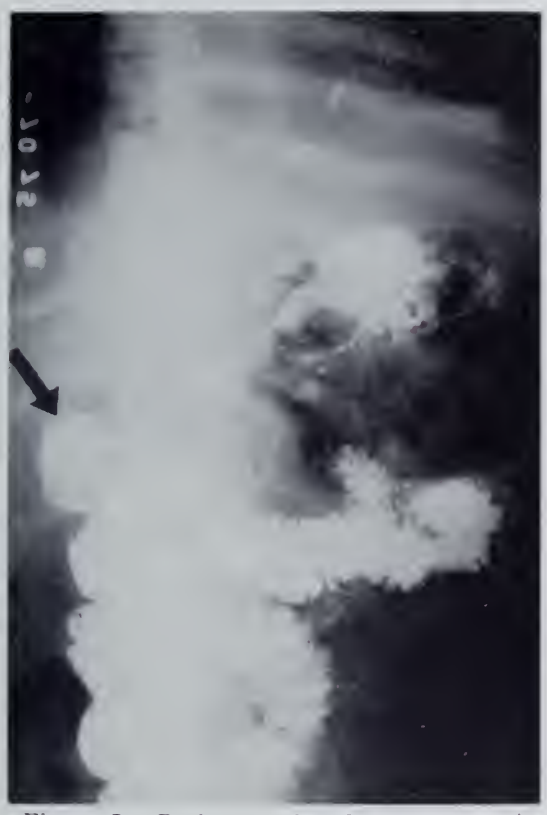


Figure 5.—Barium study of upper gastrointestinal tract showing excellent filling of the gall bladder (arrow) with the contrast material.

Summary

A case is presented of complete severance of the distal common bile duct by blunt trauma (steering wheel injury) to the abdomen. There was associated traumatic pancreatitis, perforation of the hepatic flexure of the colon and a small laceration of the liver. With increasing numbers of serious highway accidents, this rare lesion undoubtedly will increase in incidence. Some of the methods which have been used for management of this injury are presented both in text and in diagrammatic form.

References

1. Battle, W. H.: Traumatic rupture of the common bile duct. Trans. Clin. Soc. London, 27:144, 1893.

2. Deaton, W. R., Jr., and Troxler, E. R.: Am. Surgeon, 25:462, 1959.

3. Donald, J. W. and Donald, J. C.: Complete severance of the common bile duct due to non-penetrating trauma. Ann. Surg., 148:855, 1958.

4. Lysaght, A. D.: A case of traumatic severance of the common bile duct. Brit. J. Surg., 26:646, 1939.

5. Mason, L. B., Sidbury, J. B. and Guiang, S.: Rupture of the extrahepatic bile ducts from non-penetrating trauma. Ann. Surg. 140:234, 1954.

6. Spencer, W.: A case of rupture of the common bile duct. Lancet, 1:100, 1898.

7. Tolins, S. H.: Complete severance of the common bile duct due to blunt trauma: A case report. Ann. Surg., 149:61, 1959.

The Hygienic Value of the Electric Light

The French scientific journal **La Nature** summarizes a commnuication from Dr. Javal, who believes that the electric light is absolutely without danger to the sight, in consequence of the amount of division which can now be obtained in it. * * * scientists have shown that illumination by the electric light deserved preference over all other methods in use, for the following reasons: It does not pollute the air with deleterious gases or other unhealthy products. 2. It induces a greater visual unity than with daylight or gaslight. The conclusion adopted * * * was that the "Hygienic qualities of the electric light have not hitherto been appraised at their real value."—**British M. J.**

New Orleans M. & S. J. 10:375 (Nov.) 1882.

Treatment of Complete Atrioventricular Heart Block

• A method of treatment of this condition, not widely used, is reported by the authors.

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New Orleans

COMPLETE atrioventricular heart block is a common complication of certain types of intracardiac surgery. Surgeons performing intracardiac procedures are well aware of this complication and of its treatment with artificial pacemakers. Acquired atrioventricular heart block may also result from arteriosclerotic cardiovascular disease, septal infarcts and other diseases. Many of these patients respond satisfactorily to drug therapy. Certain patients, however, fail to respond adequately to drug therapy and must lead a sedentary life with frequent bouts of syncope and varying degrees of myocardial failure. Like healthy individuals, these unfortunate people occasionally are beset with some malady which requires surgical intervention.

If the surgical disease is of an urgent nature and the atrioventricular block is unresponsive to drug therapy, the surgeon is placed in a most unenviable position. He is faced with a patient needing urgent surgery but who is such a poor risk from his cardiovascular disease that he probably cannot tolerate anesthesia.

Case Report

The following case represents such an occurrence and a suggested plan of management.

T. C., a 68 year old white male, was referred to New Orleans Charity Hospital on July 15, 1960. He had been seen previously at this hospital in 1959, with a diagnosis of complete atrioventricular heart block, resulting in frequent convulsive and syncopal episodes and low grade myocardial failure. Drug therapy including isuprel, ephedrine and sodium lactate had failed to relieve his syncopal attacks.

One week prior to his present admission, he fell and incurred a left subtrochanteric fracture. Because of his cardiovascular status he was treated with traction elsewhere and subsequently referred to New Orleans Charity Hospital. Physical findings on admission in addition to his hip fracture, revealed a senile white male who exhibited frequent convulsive and syncopal episodes even at rest.

His pulse rate varied from 36 to 40 per minute with frequent extrasystoles evident. Blood pressure was 160/60.

The heart was enlarged clinically with the apex beat palpable well to the left of the midclavicular line in the sixth intercostal space. There was a high pitched Gr. 2 aortic systolic murmur transmitted to the neck, as well as Gr. 1 systolic apical murmur.

There were moist rales scattered over both lung fields. The liver was palpable on inspiration. The ECG revealed complete atrioventricular heart block. Roentgenogram of the chest showed increased pulmonary vascularity and cardiomegaly.

Attempts at reduction of the fracture by means of traction were unsuccessful and the orthopedic surgeons deemed open reduction and internal fixation of the fracture indicated.

Drug therapy directed at improvement of his cardiovascular status included isuprel 40 mgm., ephedrine Gr. 3 and meticorten 40 mgm. daily. In spite of these measures, his pulse rate remained around 40 per minute, his syncopal episodes continued and his borderline myocardial failure persisted.

On July 29, 1960, under local anesthesia, a single strand, lacquer insulated wire was introduced through a small skin incision into the right jugular vein. Under fluoroscopic control it was threaded through the right atrium into the right ventricle until the non-insulated tip of the wire touched the right ventricular endocardium. Figure 1 is a limb lead electrocardiographic tracing prior to introduction of the wire and illustrates complete atrioventricular disso-

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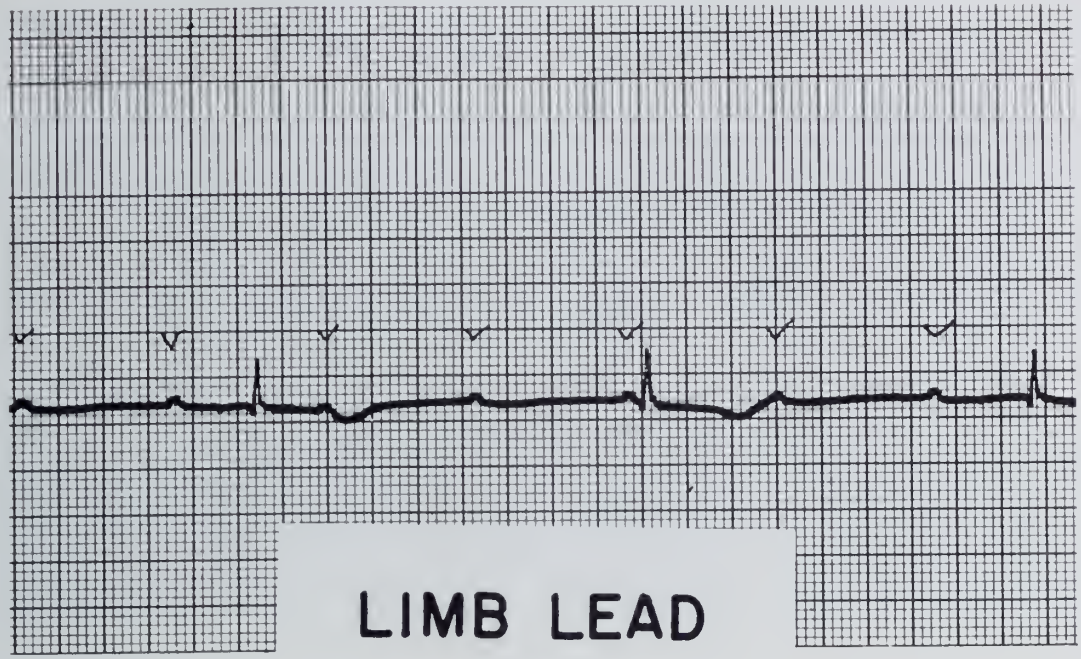


Figure 1

ciation. Figure 2 represents an electrocardiographic tracing taken directly from the intracardiac wire within the right atrium. Figure 3 is another tracing from the intracardiac wire in contact with the right ventricular endocardium. The contrast between atrial and ventricular tracings is quite marked and is an aid in proper placement of the intracardiac wire.

After the wire was positioned against the ventricular endocardium, it was connected to the negative pole of a transistorized, battery-powered, portable cardiac pacemaker. An indifferent electrode wire was sutured to the right sterno-mastoid muscle and connected to the positive pole of the pacemaker. The pacemaker was set to deliver a current of four milliamperes at a rate of 60 to 70 per minute and the patient's ventricular response was immediate. Figure 4

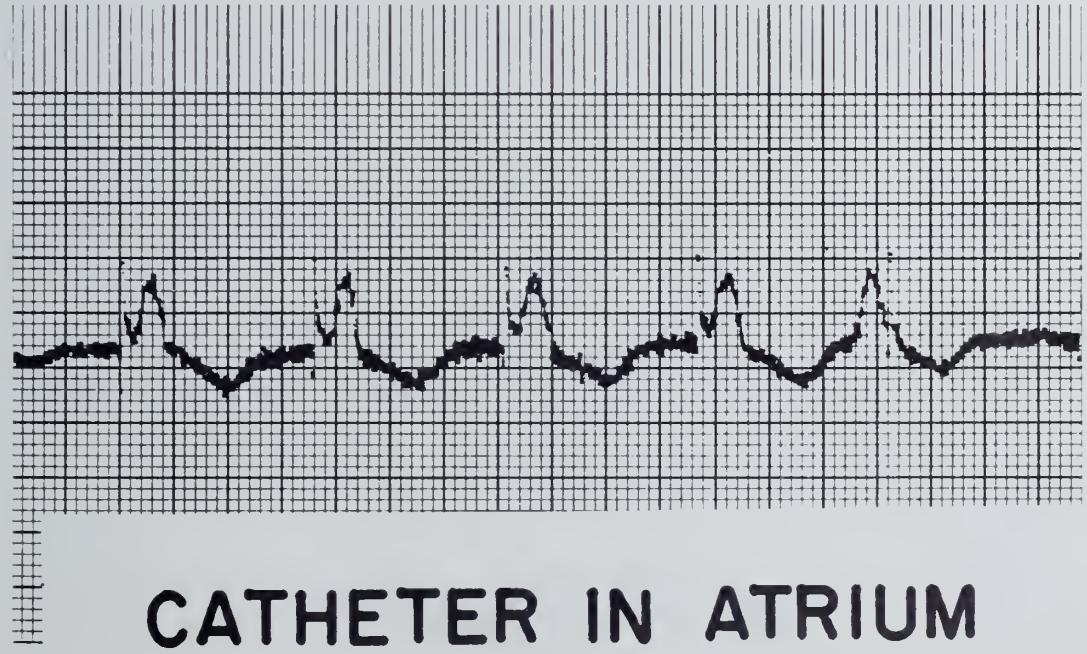


Figure 2

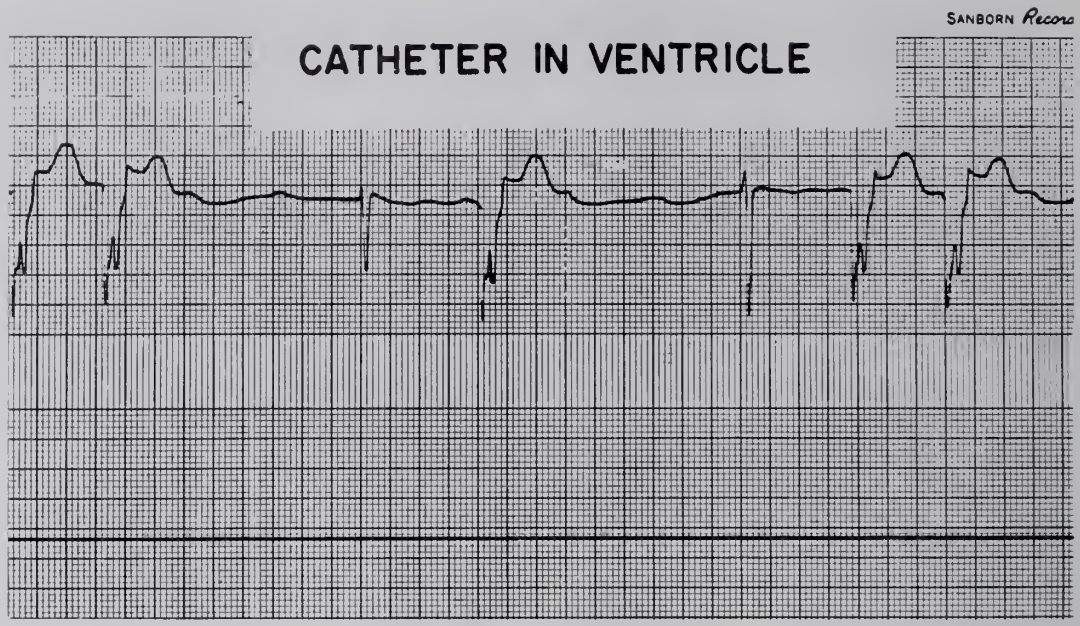


Figure 3

is a limb lead electrocardiographic tracing with the pacemaker in operation. The complete atrioventricular dissociation remains but the ventricular rate precisely follows the pacemaker impulses at the desired rate.

After insertion of the intravenous, endocardial electrode wire, the patient exhibited considerable clearing of his sensorium and had no further syncopal episodes. On August 1, 1960, when the orthopedic surgeons performed an open reduction and internal fixation of the left hip, he had no cardiac difficulties throughout the procedure.

His postoperative course was uneventful until the fifth postoperative day when he pulled on the intracardiac wire sufficiently to dislodge it from the right ventricle. His pulse rate promptly dropped to 40 per minute and his syncopal epi-

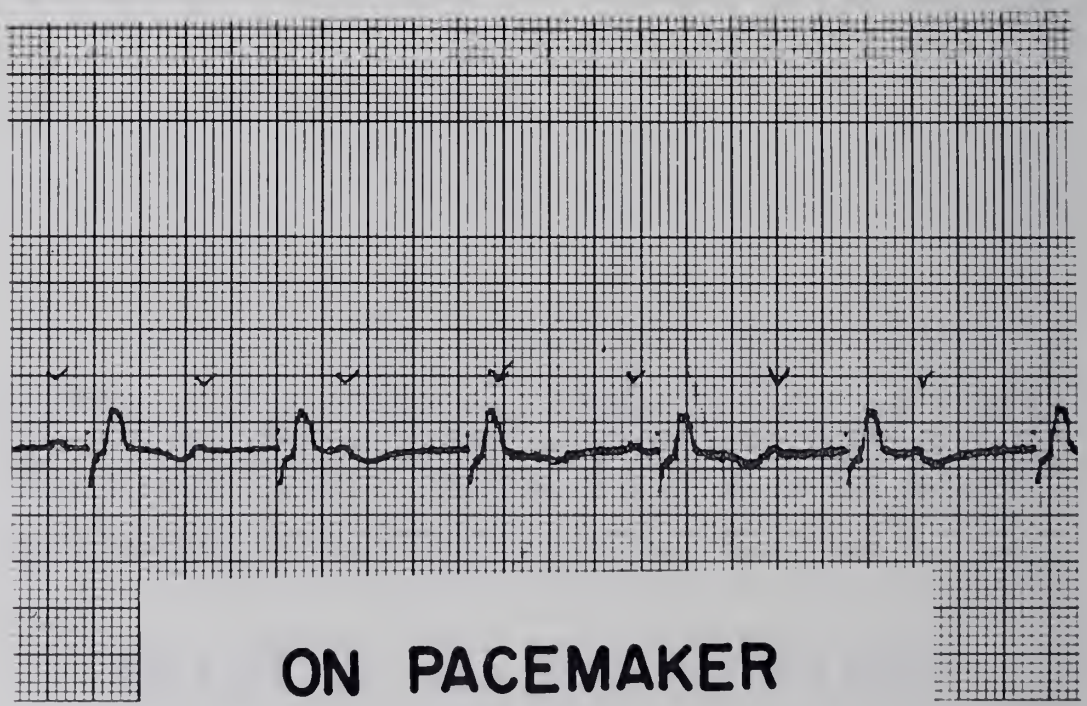


Figure 4

sodes recurred. The patient refused reinsertion of the wire. Although the staff believed that he had been helped more than he realized both from a mental and a cardiac standpoint by the pacemaker, and despite the fact that his sensorium was cloudy, his wishes were respected. The wires were removed and he was discharged on August 15, 1960.

Discussion

This case represents a patient with complete atrioventricular block in need of urgent surgery for an unrelated traumatic condition. The simple procedure of introducing an insulated wire intravenously into the right ventricle with connection to an artificial cardiac pacemaker converted this patient from an almost impossible risk to a relatively good surgical candidate. Certainly without the benefit of the pacemaker the risk of anesthesia would have been almost unacceptable.

The first practical artificial pacemaker was described by Zoll [1] in 1952. In 1957 Weirich et al.[2] utilized the pacemaker clinically following injury of myocardial conduction bundle during repair of septal defects. In 1958 Furman and Robinson [3] described the use of an endocardial electrode. Weale,[4] in 1959, first described the jugular vein route of introduction of an endocardial electrode. Furman et al.[5] have reported 18 cases of atrioventricular block treated with an endocardial electrode catheter for periods of as long as eighteen months. Their work indicates that long term usage of such an endocardial electrode can be of great benefit to any patient with symptomatic atrioventricular block for the relief of either syncopal episodes or myocardial failure secondary to the block.

Because of their experience we were encouraged to utilize a slight variant of their method to aid this patient through surgery. The procedure is simple, safe and easy to perform. For long-term usage, anticoagulant therapy must be utilized concurrently. However, this is no major problem in the present era.

Furman et al.[5] report that infection around the catheter has not been a problem. Certainly, breakage of the endocardial wire or endocardial catheter is a disadvantage and will require replacement of the catheter. However, multistrand, polyvinyl, insulated wire is now available and should prove useful in minimizing the breakage problem. In any event, the replacement of an intravenous endocardial electrode is a safer and easier procedure than is formal thoracotomy for the placement of myocardial electrodes.

Summary

A simple, safe method of treatment for symptomatic, atrioventricular heart block is described. It involves merely the insertion of a wire electrode intravenously into the right ventricle with connection to an artificial pacemaker.

References

1. Zoll, P. M.: Resuscitation of the Heart in Ventricular Standstill by External Electric Stimulation, New England J. Med. 247:768 (November 13) 1952.

2. Weirich, W. L.; Paneth, M.; Gott, V. L.; and Lillehei, C. W.: Control of Complete Heart Block by use of an Artificial Pacemaker and a Myocardial Electrode, Circulation Res. 6:410 (July) 1958.

3. Furman, S.; and Robinson, G.: The Use of an Intracardiac Pacemaker in the Correction of Total Heart Block, S. Forum 9:245, 1958.

4. Weale, F. E.: Cardiac Resuscitation via the Jugular Vein, Lancet 2:73 (August 1) 1959.

5. Furman, S.; Schwedel, J. B.; Robinson, G.; and Hurwitt, E. S.: Use of an Intracardiac Pacemaker in the Control of Heart Block, Surgery, 49:98 (January) 1961.

Review of the Method and the Results of the Schilling Tests for Pernicious Anemia*

• A comparative study of the method and results of the Schilling test at Charity Hospital with those of Schilling and other investigators.

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THE Schilling test is dependent upon the absorption of vitamin B_{12} labeled with radioactive cobalt.[6, 7] If a sufficient quantity of intrinsic factor is present in the gastric secretions, the normal patient will excrete over 4 per cent of the orally administered radioactive cobalt in the urine within twenty-four hours if the patient has been previously flooded with an intramuscular injection of nonradioactive vitamin B_{12}. Patients with pernicious anemia and malabsorption syndrome will excrete less than 4 per cent in the urine within a twenty-four hour period. In patients with pernicious anemia the administration of intrinsic factor with the test dose will result in an increase of excretion in the urine to 4 per cent or more in twenty-four hours. Administration of intrinsic factor does not enhance absorption or excretion in those patients with the malabsorption syndrome.

Methods

At the present time there are 4 primary methods of measuring the results of this test; these include measurement of fecal excretion of the radioactive cobalt in twenty-four to forty-eight hours; direct scintillation counting over the liver to measure absorption, scintillation counting of a blood sample, and as previously mentioned the twenty-four urine excretion.[5]

The basic difficulty in fecal analysis is in specimen collection and developing a proper method of counting a semisolid material. Needless to say this method has become most unpopular among the technologists in the radioisotope laboratory. Direct scintillation counting over the liver has a distinct advantage in that patient co-operation is not necessary for the completion of the test. The disadvantages are that the test requires approximately seventy-two hours for completion and that as yet no perfectly reliable probe has been developed for counting over an area as large as the liver. The measurement of serum radioactivity does reflect true absorption, but the accuracy of the test is diminished due to the very small amount of radioactive material present in a serum sample.

As a result urine assay has proved to be the most reliable method for this hospital. The urine assay method has two distinct disadvantages.[3] The physician is dependent upon the patient for the collection of the total twenty-four hour urine sample. The second and most important disadvantage is that the test is dependent upon urine excretion as well as absorption of the test material from the gastrointestinal tract. A recent review of this method of analysis in patients with elevated B.U.N.'s secondary to renal disease has appeared in the literature and the results have revealed an understandably significant decrease in the accuracy of the test.[4] Nevertheless this method has proved to be the most reliable and most facile at this hospital.

Method Used at Charity Hospital

The actual method and dosage used in this hospital varies only slightly from the original method employed by Schilling,[1, 2] as can be seen by referring to Table 1. The primary differences in our methods

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TABLE 1
VARIATIONS IN TEST DOSAGE IN URINE SCHILLING TEST.[1, 2, 5]

Material	Charity Hospital	Journal of Applied Radiology & Isotopes 1957	Schilling Method
Vitamin B_{12}	0.5 microgram	0.5-0.7 microgram	1-2 microgram
Cobalt ^{60}	0.5 microcuries	0.1-0.5 microcuries	0.5-1 microcuries
Flush Dose B_{12}	1000 micrograms	1000 micrograms	1000 micrograms
Intrinsic Factor	60 milligrams	Dialyzed gastric juice	Dialyzed gastric juice
Volume of Urine Counted	1 liter	100 milliliters	1 liter

are that in this hospital we use a somewhat smaller test dose of vitamin B_{12} and radioactive cobalt. A more recent method also is included in Table 1, which utilizes even smaller dosages of the test materials.[5] Comparative results have revealed no decrease in accuracy in those methods employing smaller test dosages. On the contrary repetitive examination of the same patients has shown the test to be more consistent with smaller test doses. If the results of the test reveal an excretion of less than 4 per cent in the urine in twenty-four hours we repeat the test with intrinsic factor one week later. We employ exactly the same dosages and procedures as are employed when the factor is not given.

The instrument used for the counting procedure is the Nuclear Chicago Model 130 scintillation counter and deep well counting chamber. Standard solutions representing 4, 8, 12, 16, 20, and 24 per cent of test sample activity are placed in 1 liter bottles. A 1 liter sample of the twenty-four hour urine specimen is also prepared in a like fashion. Each bottle is placed on top of the well and counts are recorded for five minutes. A dilution factor is figured on the basis of the twenty-four hour urine volume, and the twenty-four hour excretion percentage is calculated.

Tests Reported in Literature

In 1955, a survey of 97 Schilling tests appeared in the literature.[2] The results of these tests appear in Table 2. As can be seen this group included 18 controls not selected from the hospital population, but from a group of normal individuals. The average value for these control tests was 14 per cent. This value is considerably higher than the average of 8.5 per cent obtained in our series of tests considered to be normal. It must be remembered, however, that our tests are performed in this hospital only on those patients who are seriously considered to have pernicious anemia or malabsorption syndrome. Even in the absence of these conditions our patients frequently have an underlying disease process, and as a result we should probably expect a lower average normal value.

Tests at Charity Hospital

By referring to Table 3, it can be seen that a total of 64 Schilling tests were performed in Charity Hospital between November of 1959 and September of 1960. Out of this total 29 were considered to have a normal excretion and the test with the intrinsic factor was not considered necessary. None of this group has been demonstrated to have either pernicious

TABLE 2
SCHILLING'S SERIES — RESULTS OF 97 TESTS REPORTED IN 1955.[2]

	Total Cases	Range: Without Factor	Range: With Factor	Average Value: Without Factor	Average Value: With Factor
Controls	18	7-22%	——	14%	
Achlorhydria	31	2.2-29%	——	11.6%	
Pernicious Anemia	35	0-2.3%	3.1-30%		9.8%
Post-gastrectomy	13	0-4%	4-30%		10%

TABLE 3
RESULTS OF 64 SCHILLING TESTS AT CHARITY HOSPITAL.

	Total Cases	Range: Without Factor — With Factor		Average Value:
Controls	29	5-10%	——	8.5%
Pernicious Anemia	23	0-2%	6-19%	10.4%
Malabsorption (Abnormal fat absorption studies)	6	0-2%	0-2%	0-2%
Not Diagnostic (Normal fat absorption)	6	0-2%	0-2%	0-2%

anemia or the malabsorption syndrome by other clinical methods.

The age range of this group was 47 to 66. There are only 2 cases reported in the literature in the last eight years of false normal Schilling tests.[6] One of these patients had cirrhosis of the liver and the other had a gastro-enterostomy. Both patients were clinically demonstrated to have pernicious anemia and both returned to normal hematologically and clinically following therapy with intramuscular Vitamin B_{12}. Both have had repeated Schilling tests and they have all been normal without the addition of intrinsic factor. No explanation for this can be offered at this time.

A total of 23 tests were considered positive for the diagnosis of pernicious anemia. The age range for this group of patients was from 30 to 73. Eight of these patients were males and 15 were females. Ten of this group have been known to have pernicious anemia for years and have been on B_{12} therapy since initial diagnosis. This was the initial hospital diagnosis for the remaining 13. Seven of this group had been receiving therapy of one sort or another for varying periods of time prior to their admission to the hospital.

In general this therapy consisted of multi-vitamin preparations and vitamin B_{12} shots. As a result their clinical and laboratory findings were not at all satisfactory for the diagnosis of pernicious anemia. It is in this group that the test is of extreme significance. Also included in this group were two post-gastrectomy patients with carcinoma of the stomach. Both had been operated upon three to four years prior to this admission and each had developed a severe megaloblastic anemia. Both cases responded optimally to intramuscular vitamin B_{12} injections.

Conclusions from Test

Although no definite rule can be established, it appears that those patients with the higher percentage excretion in the urine with the addition of intrinsic factor are those with a more profound anemia. In other words those who have not been previously treated or diagnosed.

Those patients with a lower percentage excretion with the factor generally fall into two groups:

1. Those patients who have been diagnosed and treated for many years and who are doing well on I.M. B_{12}.

2. Those patients who have a complicating condition such as duodenal diverticulae, strongyloidiasis, dimorphic anemias and possible malabsorption syndromes. This particular group had Schilling tests which were persistently borderline for the diagnosis of pernicious anemia. In general these values ranged from 4-6 per cent. Several of these cases have since been shown to have true pernicious anemia.

None of the above patients had any free gastric acid, and all have had an optimal response to intramuscular vitamin B_{12} therapy. It appears that there were no false positive tests. Any value rising from less than 2 per cent excretion to 8 per cent or more with intrinsic factor added is now considered proof of pernicious anemia in this hospital. There was one unexplained false negative test in this series. The excretion was less than 2 per cent with and without intrinsic fac-

tor. This patient has been definitely proven to have pernicious anemia. A review of his chart revealed that at the time of the previous test his Blood Urea Nitrogen Level was quite high. This finding correlates with quoted material appearing earlier in this paper.

The Schilling test is of considerable assistance in the diagnosis of the malabsorption syndrome. In this hospital a patient is considered to have true malabsorption syndrome only when the Schilling test shows less than 2 per cent excretion in twenty-four hours with and without intrinsic factor, and when fat absorption studies show less than 4 per cent absorption in four hours. A total of 6 cases have fulfilled the above criteria in our laboratory during the past year. All these cases clinically have been true malabsorption syndrome. There have been 6 cases in which the Schilling test has shown less than 2 per cent excretion with and without intrinsic factor and yet have had normal fat absorption studies. Of this number 4 have been shown to have severe nutritional anemia. One has duodenal diverticuli and gastric polyposis and another has severe gastric polyposis.

We feel that the results of the Schilling test in Charity Hospital over a period of one year compare extremely well with both the patient's clinical diagnosis and with the results of this test in other established Radioisotope Laboratories across the country.

References

1. Schilling, R. F.: Recent Studies of Intrinsic Factor and Utilization of Radioactive Vitamin B_{12}, Fed. Proc., 13:769 (Sept.) 1954.

2. Schilling, R. F.: J. Lab. & Clin. Med., 45:926 (June) 1955.

3. Reisner, E. H. and Others: Application of Urinary Tracer Test as Index of Vitamin B_{12} Absorption, Am. J. Clin. Nutrit., 4:134 (March) 1956.

4. Rabiner, S. F. and others: Urinary Excretion Test, Ann. Int. Med., 44:437 (March 1956.

5. Talou, D. L.: Techniques for Peruicious Anemia Diagnosis with Radioactive Cyanocobolamin, Internat. App. Radiat. 4:249, 1957.

6. Hughes, W. L. and Johnson, P. C.: Radioisotopes in the Differential Diagnosis of Anemia, South. Med. J., 50:709 (June) 1957.

7. McIntyre, P. A. and others: Pathogenesis and Treatment of Macrocytic Anemia, A.M.A. Arch. of Int. Med., 98:541 (November) 1956.

The Responsibility of Criminal Lunatics

By H. S. Herrick, M. D.

Read before the Orleans Parish Medical Society. Publication authorized.

The literature growing out of the assassination of President Garfield, during a little more than a year, has attained extraordinary proportions. Quite lately the trial of the assassin Guiteau has evoked small volumes from two medical men, the one a neurological expert, the other an alienist of more than twenty years' experience. Each one of these writers naturally regards the criminal Guiteau from the standpoint of his own specialty; by the medical standard both pronounce him of unsound mind, and therefore irresponsible positively in a moral sense, and properly in a legal sense, for his crime.

New Orleans M. & S. J. 10:401 (Dec.) 1882.

Heaf Type Multiple-Puncture Tuberculin Test Comparison with Mantoux and Vollmer

• Further study of the value of the tests for tuberculosis, using the Heaf test together with the Vollmer and Mantoux, in the same 155 patients.

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Lafayette

IN a previous report [1] the advantages of the Vollmer over the Mantoux intradermal tuberculin patch test were enumerated, but there was a serious disadvantage of the Vollmer test, namely a lack of sensitivity. The Vollmer test revealed 85 per cent of the persons were unquestionably tuberculous. In comparison, the Mantoux test using P.P.D. 0.00002 (first strength) and if no reaction occurred, occurred, P.P.D. 0.0001 (intermediate strength) revealed 97.6 per cent of these tuberculous persons. The same patients were used, and in most cases at the same time. The Vollmer test was very valuable in epidemological area surveys in determining which large group of persons (by residence, occupation, race, or sex) have a higher incidence of tuberculosis infection than some other group. In this way the high incidence groups can be identified and our efforts channeled to these people. However, when a high incidence group is found by the Vollmer test everybody in that group should be investigated for tuberculosis if our aim is eradication of tuberculosis. If there was a more sensitive test available without the disadvantages of the Mantoux test the negative reactors could be disregarded with a large saving of effort, time, personnel, and money.

A hundred and fifty-five patients who were proven to have pulmonary tuberculosis by culture were studied by the Heaf multiple-puncture tuberculin test [2] and by the Vollmer and the Mantoux methods. In the Heaf test six sterilized needles are driven through a previously applied film of concentrated (2 mg. in one ml.) P.P.D. to a depth of approximately one millimeter by a mechanical device, in this case a Sterneedle© gun.† The test can be given rapidly by relatively untrained personnel, the patient acceptance is high, and it is nearly painless. Occasionally some slight bleeding is seen as a result of undue pressure in applying the test, but the bleeding did not interfere with the accuracy of the test. The test cannot be removed accidentally or intentionally, and the patient can bathe if he desires.

TABLE 1

	Vollmer Patch	P.P.D. #1	P.P.D. (Int.)	Heaf
112	Pos.	Pos.		Pos.
13	Neg.	Pos.		Pos.
12	Pos.	Neg.	Pos.	Pos.
4	Neg.	Neg.	Pos.	Pos.
3	Neg.	Neg.	Neg.	Pos.
3	Pos.	Pos.		Neg.
2	Neg.	Neg.	Neg.	Neg.
2	Neg.	Pos.		Neg.
3	Pos.	Neg.	Neg.	Pos.
1	Pos.	Neg.	Neg.	Neg.
155				

Only 8 patients of the 155 did not show a positive reaction, as manifested by a palpable induration at the site of more than three puncture points or a more noteworthy reaction. The reactions were classified as one plus, two plus, three plus,

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† The Sterneedle gun is distributed by the Panray Corp.

and four plus as read on the fifth day.

1. Palpable induration at the puncture points.
2. Coalescence of the indurated points to form an edematous ring.
3. More intensive induration forming a coin pattern approximately 2 cm. in diameter.
4. A more striking reaction.

However, because the size of the reaction was not related to the severity of the disease this classification was not used in this study.

In contrast, 24 patients showed no reaction to the Vollmer patch test, a false negative rate of 15.48 per cent. In a previously reported series of 124 patients the false negative rate was more than 15 per cent.

As expected, the results of the Mantoux test using P.P.D. first strength and intermediate strength were much more reliable than the Vollmer test. Nine of the 155 were negative, a false negative rate of 5.8 per cent. A reaction was graded as negative if the induration was smaller than four millimeters in diameter. Redness was disregarded.

It is well known that the administration of glucocortoids will diminish or abolish the reaction to tuberculin in many cases.[3-5] Ideally, skin tests should be done before the administration of steroids if treatment by steroids is considered. One patient who was treated by prednisone at the time was positive to the Vollmer test while the P.P.D. tests and the Heaf test were negative. Another patient who was taking prednisone was positive to both Heaf and Vollmer tests but negative to P.P.D. first strength and P.P.D. intermediate strength tests, while a third was positive to the Heaf test and negative to both the Vollmer and the PPD first and intermediate tests. One patient who was receiving prednisone for three years for another disease before her tuberculosis was discovered was positive to the Heaf, Vollmer, and PPD tests.

Discussion

The Heaf test was as sensitive as the Mantoux if both PPD first strength and intermediate strength are used. The test is easily done and easily read. The solution of tuberculin (Connaught) will maintain its activity for a period of 18 months from the date of manufacture, a boon to the physician who uses a tuberculin test intermittently. In survey work the overwhelming superiority in sensitivity, 94.84 per cent vs. 84.52 per cent, over the Vollmer should far overbalance the slight superiority in ease of application of the Vollmer.

It has been suggested that a negative reaction to five tuberculin units (0.0001 mg. of P.P.D.) can rule out the tubercle bacillus as the etiological agent in many instances.[7, 8] However, no test is infallible. Two patients were negative to all skin tests. One of these was 75 years old, acutely ill and had a recent cerebral thrombosis, but in the other case no proven explanation could be offered. The other six Heaf negative patients were positive to one or both of the other tests, while 6 were positive to the Mantoux test but negative to the Heaf test.

In a series of 416 tuberculosis patients who were tested by P.P.D. intermediate strength 7.2 per cent were non-reactors, but if these non-reactors were re-tested by the same strength P.P.D., only 1.7 per cent did not react.[9] Either the Heaf test or the Mantoux test using P.P.D. #1 and P.P.D. intermediate are valid screening procedures and should disclose nearly 95 per cent of persons who are infected by the tubercle bacillus. However, they can not be used as an exclusive test in the individual case. If P.P.D. .005 mg. is used a negative reaction in a reasonably healthy person nearly eliminates the possibility of infection with Mycobacteria tuberculosis, but a positive reaction could be caused by acid fast Mycobacteria which are not Mycobacteria tuberculosis.[10] It has been reported that the Heaf test was positive in 11.9 per cent of 303 subjects who were negative to the Mantoux test using 0.1 mg. O.T.[11]

The importance of these "false positives" due to either atypical Mycobacteria or less likely to chemical irritation is

small in view of the fact that a positive tuberculin test does not mean that active disease is present.

There is little relation of the severity of the reaction to the Heaf or Mantoux tests to the extent, duration, or location of the disease in these active cases. The patients who were acutely ill and febrile had less striking reactions or were negative. It should be noted when screening apparently healthy persons that people who have positive reactions to P.P.D. 0.0001 larger than 10 mm. are three or four times more likely to develop clinical tuberculosis than those who have reactions of 4 to 9 mm.[12, 13]

Summary

The Heaf test was positive in 94.84 per cent of 155 patients with proven clinical tuberculosis. In comparison, the Mantoux test using 5 tuberculin units (P.P.D. intermediate) or less was positive in 94.19 per cent while the Vollmer patch test was positive in 84.52 per cent of the same patients.

Both the Heaf and the Mantoux tests are valid screening procedures and either should disclose more than 94 per cent of persons who have been infected by Mycobacteria tuberculosis. They cannot be used as an exclusion test in an individual case.

Little skill is involved in giving or reading the Heaf test, and the solution of tuberculin is stable for 18 months. The patient acceptance is higher than in the Mantoux test. The Heaf test should be very valuable in office screening, especially in the practice of physicians who use tuberculin tests intermittently.

The Vollmer patch test should not be used alone in office practice in view of the unduly high rate of "false negatives" which could cause a feeling of security not warranted by the accuracy of the test. The principle value of the Vollmer test is in large surveys to pin point the high incidence groups.

References

1. Coulter, W. W., Jr., Martin, M. P., and Bruce, J. M.: Application of the Patch Test in Tuberculosis Case Finding, J. Louisiana State M. Soc., 113:339 (Aug.) 1961.

2. Heaf, F.: The Multiple Puncture Tuberculin Test, Lancet 2:151 (July) 1952.

3. Long, J. B. and Favour, C. B.: The Ability of ACTH and Cortisone to Alter Delayed Bacterial Hypersensitivity, Bull. Johns Hopkins Hospital, 87:186 (Sept.) 1950.

4. Harris, S., and Harris, T. N.: Effect of Cortisone on Some Reactions of Hypersensitivity in Laboratory Animals, Proc. Soc. Exper. Biol. and Med. 74:186 (July) 1950.

5. Derbes, V. J., Dent, J. H., Weaver, N. K. and Vaughan, D. D.: Response of Tuberculin Skin Test to ACTH and Cortisone in Tuberculous Guinea Pigs, Proc. Soc. Exper. Biol. and Med., 75:423 (Nov.) 1950.

6. Coulter, W. W., Jr.: Adrenocortoids in the Treatment of Pulmonary Tuberculosis, J. Louisiana State M. Soc., 113:134 (April) 1961.

7. Furcolow, M. L., Hewell, B., and J. M.: Quantitative Studies of the Tuberculin Reaction, Am. Rev. 45: 504 (May) 1942.

8. Editorial: New Horizons for the Tuberculin Test, J.A.M.A., 168:894 (Oct. 18) 1958.

9. Katz, S., and others: Intermediate Strength Purified Protein Derivative, Am. Rev. of Resp. Dis., 81:196 (Feb.) 1960.

10. Edwards, L. B., and Krohn, E. F.: Skin Sensitivity to Antigens Made from Various Acid-Fast Bacteria, Am. J. Hyg. 66:253 (Nov.) 1957.

11. Stott, H.: Heaf Multiple-puncture Test Compared with Mantoux Test, Tubercle 36:119 (Aug.) 1955.

12. British Medical Research Council: BCG and Vole Bacillus Vaccines in the Prevention of Tuberculosis in Adolescents, Brit. M. J., 1:413 (Feb. 25) 1956.

13. Palmer, C. E., Jablon, S., and Edwards, P. Q.: Tuberculosis Morbidity of Young Men in Relation to Tuberculin Sensitivity and Body Build, Am. Rev. Tubere. 76:517 (Oct.) 1957.

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Editorial

Status of Poliomyelitis Vaccination

The physicians of the nation have been asked and will be urged again to make a continuing campaign against poliomyelitis. The results of the collective effort of all who have concerned themselves with control of poliomyelitis are encouraging.

Indications are that the incidence this year will be the lowest in recent years. This was also true in 1960, and there has been a progressive decline since 1955, except for the year 1959. The Salk vaccination programs were initiated in 1955.

Although there is a tendency for the disease to vary in its intensity, the figures have been substantially lower in the last three years than they have in the last twenty-three years. The favorable difference is largely attributable to the Salk vaccine. However, in spite of the wide support of the use of the vaccine by health authorities, we had at the beginning of this year 38 per cent of children five years and under, 63 per cent of men age twenty to forty, and 48 per cent of women, age twenty to forty, all not fully vaccinated.

The disease is maintained and spread predominantly by children under age five. It attacks young adults and pregnant women disproportionately more severely than other individuals in the community. This situation called for a renewed effort to vaccinate "babies and breadwinners" on the part of the Public Health Service and the American Medical Association, at the beginning of this year. The House of Delegates approved the recommendations of the Council on Drugs of the A. M. A. in June of this year, which advocated fundamental policies as regards the Salk and the oral poliomyelitis vaccines.

The Council advised that pending such time as the oral polio virus vaccines are generally available physicians should encourage, support and extend the use of Salk vaccine on the widest possible scale. All persons below fifty years of age should receive or complete a full course of three

basic inoculations of Salk vaccine plus at least one booster. Where circumstances do not permit the accomplishment of as complete a program as this, special emphasis should be placed on immunization of preschool children and young parents, for it is in these two groups that the risk of paralytic poliomyelitis is greatest. This has been the situation and recommendation applicable during the current year.

Since the oral poliovirus vaccines will become available during the latter part of this year, observations were made by the Council as to its status and recommendations were made as to its use. The Council believes that oral polio vaccine may be given to all persons six weeks of age and over regardless of whether or not they have received Salk vaccine. It also recommends that all physicians take leadership in initiating, supporting, and participating in extensive community-wide mass vaccination programs. By such means, it is hoped that the 50 per cent of the population who are now susceptible and unprotected will be immunized, and in so doing the disease will be largely controlled and possibly eliminated.

These conclusions and recommendations have been made by the Council on grounds which are regarded as dependable. The recommendations of the Public Health Service Committee on Live Poliovirus Vaccine and of the Expert Committee of the World Health Organization have been reviewed along with further available data. The originator, Sabin, of the vaccine chosen to be licensed by the Public Health Service has stated that his vaccine has been given to over one hundred million people.

The considerations upon which the recommendation for the use of the oral vaccine have been based are fundamental and their explanation has a bearing on the understanding of the problem.

Current knowledge of the pathogenesis of poliomyelitis and of the factors influencing the epidemiologic spread of the disease recognizes two manifestations of immunity: (1) Humoral immunity due to circulating virus-neutralizing antibodies; and (2) what is presumed to be local resistance to virus multiplication in the mucosa and lymphoid tissues of the alimentary tract. Both kinds of immunity affect the spread of the three types of polioviruses in the patient, but only local resistance profoundly affects the spread of the disease in the community by decreasing the growth and spread of the virus in and from the alimentary tract.

Humoral immunity exists when there are neutralizing antibodies in the serum. These protect man against paralytic attack by homotypic polioviruses. The antibodies may be passively acquired, as by way of the placenta or as the result of parenteral administration of human globulin; or they may be actively acquired, resulting from natural infection; or as the result of oral administration of live attenuated polioviruses; or infection through contact spread of the latter; or acquired following parenteral administration of formaldehyde-killed polioviruses.

Local resistance in the intestinal tract is stimulated by infection, which infection may come from wild (naturally occurring) polioviruses or the oral feeding of attenuated polioviruses, or contact spread of the latter.

The contention of the advocates of oral vaccine is that the intestinal tract of the individual becomes immune to further wild virus infection and that "although Salk vaccine can be expected to reduce greatly the relative risk of paralytic poliomyelitis among adequately vaccinated individuals the procedure cannot be expected to have great effect on the incidence of alimentary poliovirus infection either among vaccinated or unvaccinated individuals."

The oral vaccine, therefore, is put forward as a means of eradication of the disease as a community health problem. Upon this point and various others in connection with the two forms of vaccine, controversies have developed. The advocates of the oral vaccine state that since the Salk vaccine generally fails to protect against alimentary infection with wild poliovirus, the immunized individual can become a

temporary shedder of poliovirus. The advocates of Salk vaccine contend that if its use were wide enough community protection would develop as part of the immunity process.

Both vaccines are safe. It is anticipated that their remaining safe will depend upon exercise of biological controls on a continuing basis. Since 1956, there has been no evidence that poliomyelitis has been provoked by formaldehyde-killed vaccines in the United States and elsewhere. By the operation of these same controls, however, two biological houses have recently suspended vaccine manufacture because of the discovery in the vaccine of the SV-40 virus, which is reported as being the fortieth simian virus to be isolated from some rhesus monkeys. The safety of the oral vaccine is protected by similar controls.

Investigators believe that the ability of poliovirus to set up an alimentary infection (its infectivity) is a genetic property which is independent of its ability to invade and multiply in the central nervous system (its pathogenicity). The oral poliovirus vaccine is made up of strains which have high infectivity and low pathogenicity. Field experience of the safety of these vaccines has been gained from evidence: (1) That the vaccine did not appear to induce paralytic poliomyelitis either among vaccinees or their contacts; (2) of genetic stability and changing monkey neurovirulence after one or more human passages; and (3) of the ability of the virus to spread among contacts. Even when surveillance has been rigorous, it has not been established that any of the live vaccines have provoked paralytic poliomyelitis.

From the available evidence it appears that the medical profession has two agents with which poliomyelitis could be controlled and probably eliminated. Vaccination campaigns for the use of the Salk vaccine have immunized approximately 50 per cent of the susceptibles and reduced the incidence substantially. It seems probable that the oral vaccine may be effective in reaching the other 50 per cent. In either case, the long and hard work of all those whose efforts have contrived to bring about the control of this disease deserve the gratitude of the medical and the general public.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

DR. LECKERT HONORED

The Louisiana State Medical Society has presented a special plaque to Dr. Edmund Lawrence Leckert, honoring the veteran New Orleans physician "for long and diligent service to the cause of professional medicine."

The presentation was made at Dr. Leckert's home, 1214 Nashville Ave., by a committee consisting of Dr. C. J. Brown, president of the Louisiana State Medical Society; Dr. C. Grenes Cole, the Society's secretary-treasurer, and Dr. Philip H. Jones and Dr. Ashton Thomas, both past presidents of the Society.

During the brief informal ceremonies, Dr. Brown explained that the decision to honor Dr. Leckert was made by unanimous vote of the State Medical Society's House of Delegates.

Until his retirement earlier this year, Dr. Leckert was active in many projects of the Orleans Parish and Louisiana State Medical Societies, the City Board of Health, the Louisiana State Board of Medical Examiners, and numerous other professional societies and organizations.

Born in New Orleans in 1882, Dr. Leckert received his early education in the local public and parochial schools and graduated from Tulane in

1905. He obtained his degree in medicine from Tulane and entered private practice. He was elected to honorary membership in the Orleans Parish and Louisiana State Medical Societies in 1960.

In February, 1921, Dr. Leckert became secretary of the Board of Health, succeeding to the presidency of the Board following the death of Dr. John Callan.

Dr. Leckert's association with the State Board of Medical Examiners began in 1914 and continued for 46 years. He served as president of the Board from 1939 until 1953, and was a member of the Board until he retired in May of this year.

Dr. Leckert has held membership in the Orleans Parish Medical Society since 1905 and was a member of the board of directors for 26 years until he retired.

Extremely active in hospital work, Dr. Leckert was an organizer of Mercy Hospital where he served as chairman of the board and chief surgeon for many years. He was director of Charity Hospital in New Orleans from 1952 until 1954.

He has served as a member or chairman of the committee for the Journal of the Louisiana State Medical Society for many years and also held many important assignments on other Society committees.

"Dr. Leckert has always stood as a symbol for everything that represents the finest in professional medicine," Dr. Brown said in presenting the plaque, "and his judgment, wise counsel, and valued advice have been given willingly at all times for the betterment of the profession and what it represents."

Dr. Leckert is married to the former Alma Bonterie and is the father of three children, one of whom is a doctor specializing in the practice of ophthalmology.

STATEMENT OF THE LOUISIANA STATE MEDICAL SOCIETY IN OPPOSITION TO H.R. 4222, 87th CONGRESS

Presented to the Ways and Means Committee, U. S. House of Representatives

By

Philip H. Jones, M. D.

July 31, 1961

Mr. Chairman and Members of the Committee:

I am Dr. Philip H. Jones, of New Orleans, I represent the Louisiana State Medical Society. I am a delegate from this Society to the House of Delegates of the American Medical Association. I am Emeritus Professor of Clinical Medicine of Tulane University. I am Editor of the Journal of the Louisiana State Medical Society. I practice Internal Medicine in New Orleans.

The Louisiana State Medical Society is composed of 2600 physicians in 46 Parish and district medical societies. There are approximately 3100 licensed physicians established and practicing in the State. This organization represents 84 per cent of the doctors practicing in Louisiana. This Society was organized in 1903, and the purposes then as now are:

" * * * with a view to the extension of medical knowledge, to the advancement of medical science; to the elevation of the standard of medical education, and to the enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to guarding and fostering their material interests, and to the enlightenment and direction of public opinion in regard to the greatest problems of State Medicine."

The Louisiana State Medical Society agrees with and supports the physicians of the American Medical Association in opposing the enactment of all legislation for the aged under the Social Security provision as contained in H.R. 4222. The reasons for this position pertain to general considerations, and also, to the condition of the aged as at present cared for in the State of Louisiana.

The general objections to the Bill are, as follows:

It would lead to government bureau control medicine by progressive accretions every two years. It will be expanded to cover the whole population, and simply as a matter of successive adjustments, socialized medicine will become established. The major advocates of the Bill obviously envisage this as their ultimate goal. This may seem remote but as the President has said, his bill is "just a beginning."

H.R. 4222 will not provide for one-fourth of the aged, which is approximately four million. Among those for whom it makes no provision are approximately two million receiving old age assistance under federal-state programs.

The Social Security approach to medical care for the aged is unfair in that it places a burden of the costs of the program only on the low income workers with payment based on gross income. If medical care of the aged is to be regarded as a national problem, it should be financed from general revenues as provided in Title VI of Public Law 86-778 (Kerr-Mills law).

The expense of operation of this proposed law will become more expensive as the number of aged increases, even though the proportion of the needy aged will be decreasing.

The Social Security approach is unnecessary. About 50 percent of those over 65 (approximately eight million persons) have some form of health insurance.

One and a half million of our aged are now receiving cash benefits from corporate pension plans.

One million persons over 65 receive Veterans pensions, as well as Social Security benefits.

Approximately five million of our aged are still employed, or are the wives of workers who are employed.

One million retired persons currently receive annuities, which were privately purchased.

The Bill violates the principle of independent Americanism. Medical care is first the responsibility of the individual, then in succession, the family, the community, the State, and more remotely, the nation. In the era in which most of the aged about whom we are concerned grew up, it was and still should be a tenet of good, provident citizenship for the individual to prepare for his old age.

In the initiation of previous state medical programs, the estimate of the burden of taxation has been too low. This has been true in whatever state of the community the attempt has been made. The eventual cost is two to three times the estimate. The one billion dollars estimated for the cost of this proposed law would probably be only one-third of the total eventual annual expense.

The specific objections to this Bill as applied to the State of Louisiana are, as follows:

The need for such legislation does not exist here. Louisiana has approximately 242,000 individuals over 65; 125,000 of these are on the public assistance rolls—the highest of any State. At present, their need for hospitalization is adequately provided for by a system of fifteen state maintained charity hospitals with 14,201 free beds. These beds are within the practical approach of any needy citizen.

The Department of Public Welfare provides for the medical needs under federal-state funds and vendor payment programs for those among the aged who are in need and whose conditions does not require treatment in one of the Charity hospitals.

Of the remaining 117,000 aged, it is estimated that 50,000 to 60,000 have adequate resources for their own care, and the last 60,000 will be taken care of by the Kerr-Mills law. The operation of the means test in this law will not be regarded as any more degrading than the means test when it is applied as a preliminary to being admitted to a federal housing project.

The Kerr-Mills law supplies aid to those aged who are medically indigent—where, when, and as needed; secures its funds from the taxation of all the people, and does not force a tax which is heaviest on those who make the least. It maintains the position of the States in community management and secures them in their rights.

ANSWERS TO CRITICISM OF OPPOSITION

Answering a few objections of those who criticize the position which organized medicine has taken, I would like to remark that the statement that the proposed Bill could not be socialized medicine because it does not pay the doctors is incorrect. It will pay those doctors who have contractual positions in hospitals. It will control the hospitals with whom it does business and expect the hospitals in turn to control the doctors whom it permits to practice in the hospital as members of its staff.

The statement that three-fifths of the people over 65 had less than $1000 in money income is not supported by the fact that there are only two and a half million people on old age assistance rolls. This 15½ per cent of the aged population, and probably an equal number of those whose medical economics state is marginal can be taken care of adequately by the Kerr-Mills law. This law is being implemented in the majority of the states at this time, and is proceeding more rapidly than most such laws, in spite of the fixed legal impediments. Twenty-one States have passed the laws or have the plan in action. Eighteen States have legislation in process. The Legislatures of two States meet next year. Four have the program under consideration and seven have adjourned without taking action.

Organized medicine feels that the medical needs of the aged who are indigent or are marginally indigent medically, should be met by the Kerr-Mills law, and not by a dangerous excursion into State medicine.

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Jefferson	Third Thursday of every month	
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

LOUISIANA THORACIC SOCIETY TO STAGE MEDICAL SEMINAR ON EMPHYSEMA

The Louisiana Thoracic Society, medical section of the Louisiana Tuberculosis Association, and an organization of Louisiana physicians dedicated to the control of tuberculosis and Respiratory Diseases, will sponsor a Scientific Session on Emphysema in the Auditorium of the Veterans Administration Hospital, 1601 Perdido Street, New Orleans, from 8:30 A.M. to 12:30 P.M., Saturday, October 28, 1961.

Medical experts of national and international reputation will serve as speakers.

All Louisiana physicians are invited to attend. There is no registration fee for the Christmas Seal medical seminar.

Specific program information can be obtained from the Program Chairman, Dr. Howard A. Buechner, V. A. Hospital, 1601 Perdido Street, New Orleans.

POSTGRADUATE COURSES MEDICAL COLLEGE OF GEORGIA

Five intensive postgraduate courses patterned for the practitioner are planned for the fall and winter 1961-62 at the Medical College of Georgia, Augusta, Georgia. Featured faculty will include nationally known figures as: Dr. Ralph V. Platou, Professor of Pediatrics & Head, Dept. of Pediatrics, Tulane Univ. School of Medicine, New Orleans, La.; Dr. Louis A. Goldstein, Associate Professor of Surgery (Orthopedics), Univ. of Rochester School of Medicine, Rochester, N. Y., and Dr. Darius Flinchum, Instructor in surgery, The School of Medicine, Emory Univ., Atlanta, Georgia; Dr. Michael Newton, Prof. and Chairman, Dept. of Ob-Gyn, Univ. of Mississippi Medical Center, Jackson, Miss.; Dr. Harold D. Levine, Peter Bent Brigham Hospital, Boston, Mass.; Dr. Champ Lyons, Prof. and Chairman, Dept. of Surgery, Medical College of Ala., Birmingham, Alabama.

Advances in Pediatric Diagnosis and Treatment, Oct. 31 - Nov. 2, 1961; Fractures in General Practice, Nov. 14-16, 1961; Obstetric Problems in Private Practice, Jan. 23-25, 1962; Cardiac Emergencies, Feb. 13-15, 1962; and Pre and Postoperative Care, Mar. 20-22, 1962. The courses will be supplemented by members of the faculty of the Medical College of Georgia.

Each course is acceptable for 18 hours of credit by the American Academy of General Practice and registration is limited to a small group for close participant-faculty communication. Registration fee is $50.00 for each session. Application may be made by contacting Dr. Claude-Starr Wright, Director, Department of Continuing Education, Medical College of Georgia, Augusta, Georgia.

ANNUAL SESSION COLORADO STATE MEDICAL SOCIETY

The Annual Session of the Colorado State Medical Society will be combined this year with the Congress on Occupational Health, sponsored by the American Medical Association. The meeting will be held at the Brown Palace and Shirley Savoy Hotels in Denver on October 1 to 4.

The October 3 and 4 programs have been scheduled for the Congress on Occupational Health and will include the following participants: Dr. Donald J. Birmingham, Cincinnati; Dr. W. Daggett Norwood, Richland, Washington; Dr. Elston L. Belknap, Marquette University School of Medicine; Dr. Robert R. Yanover, Albertson, New York; Dr. R. Lomax Wells, Washington, D. C.; Dr. Harry E. Tebrock, New York City; Dr. Leonard E. Himler, Ann Arbor Michigan; Dr. Cecil Wittson, University of Nebraska; Miss Sara P. Wagner, New York City; Dr. Roger S. Mitchell, University of Colorado Medical School; Dr. Frank J. Princi, University of Cincinnati; Dr. Giles F. Filley, University of Colorado Medical School; Dr. Arthur J. Vorwald, Wayne University College of Medicine; Dr. Robert F. Bell, University of Colorado Medical

School; Dr. Melvin N. Newquist, Clearwater, Florida; Mr. Theodore C. Waters, Baltimore; Dr. Samuel P. Newman, Denver; Mr. Jack E. Linster, Wausau, Wisconsin; Mr. Harold C. Thompson, Colorado State Compensation Insurance Fund; Dr. James G. Gaume, Denver.

Further information may be obtained by writing to the Colorado State Medical Society, 835 Republic Building, Denver 2, Colorado.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next scheduled examination, (Part I), written, will be held in various cities of the United States, Canada, and military centers outside the Continental United States on Friday, January 5, 1962.

Case Reports are no longer required by this Board to complete the Part 1 Examination.

In lieu thereof, all applicants and candidates for examination are required to sumbit a DUPLICATE CERTIFIED TYPEWRITTEN LIST of patients dismissed from each hospital during the preceding twelve months. This applies to new applicants, reopened candidates, and candidates requesting re-examination in Part I or Part II Examination.

Lists of Obstetrical and Gynecological patients are to be made separately and must conform in all details to the sample format furnished upon request by the office of the Executive Secretary and Treasurer.

Candidates are no longer required to bring a duplicate list of admissions to the Part II Examination.

Current Bulletins may be obtained by writing to Robert L. Faulkner, M. D., Executive Secretary and Treasurer, 2105 Adelbert Road, Cleveland 6, Ohio.

ARTIFICIAL HIP RECOMMENDED FOR FRACTURES IN AGED

The use of artificial hip joints for elderly persons who suffer severe hip fractures was recommended recently by three Cleveland physicians.

The operation allows the patient to bear weight on the hip in two to three weeks, according to Drs. J. George Furey, George E. Spencer, Jr. and Donald J. Pierce.

Other surgical procedures, in which the broken hip is set and allowed to heal, require the patient to avoid weight bearing for six months.

Writing in the July 15 Journal of the American Medical Association, the authors conceded that "the end result of a well-healed hip fracture is superior to the average prosthesis result."

However, if healing can be expected in only 65 to 75 per cent of the cases and complications can be expected in 20 to 40 per cent of those cases, then patients over 70 years of age or younger patients with severe physical or mental disabilities should not be subjected to the extended period of non-weight bearing required for healing, they said.

When an elderly or debilitated person sustains a hip fracture, it frequently marks the beginning of a gradual or rapid deterioration, they commented. A six-months' convalescence in many elderly patients precludes any significant degree of walking, which by itself causes complications and necessitates considerable nursing care, they said.

This discouraging picture can, for the most part, be avoided with the insertion of an artificial hip joint, they said.

These patients can get out of bed the day after surgery and walk with full weight bearing as early as two or three weeks after the operation when there is healing and recovery of sufficient muscle strength, the physicians said.

The rapid return to near prefracture state of physical activity prevents many of the general complications commonly encountered following hip fractures, they said.

The prosthesis consists of a knob, replacing the ball-like end of the thigh bone which fits into the pelvic socket, and a stem which fits into the thigh bone.

The authors reported on a study of 102 patients with an average age of 74, who were operated on during a five-year period.

Of the 102 patients, excellent or good results were obtained in 82 per cent, they said.

This was felt to be "very satisfactory considering the difficult problem at hand," and that almost half of the operations were performed after failure of an initial bone-setting operation or as a result of a late complication, they said.

The authors said they also felt that the operation is "not unduly hazardous" in the aged.

ISOLATE BACTERIA THAT CAUSES 'ATHELETE'S FOOT'

Bacteria have been identified as a cause of erythrasma, a skin ailment commonly termed "athlete's foot" when it affects the toes, three physicians reported recently.

The disease, which causes cracking and scaling of the skin, previously has been classified among those caused by fungus.

Drs. Imrich Sarkany, M.R.C.P., David Taplin, and Harvey Blank, Miami, Fla., said they recently succeeded in isolating rod-shaped bacteria from affected skin and have found that the disease responds to treatment with certain antibacterial antibiotics.

"Electron microscopic examinations confirm that the organisms regularly obtained in cultures are bacteria," they said.

Writing in the July 15 Journal of the American Medical Association, the authors said erythrasma is most commonly manifested in the toes.

An examination of 109 persons revealed that 23 per cent had erythrasma of the toe webs, they said.

BOOK REVIEWS

Edema, Mechanisms and Management; a Hahnemann *Symposium on Salt and Water Retention;* Hahnemann Medical College and Hospital of Philadelphia, edited by John H. Moyer and Morton Fuchs, Saunders, 1960, 833 p. Price, $15.00.

This book represents a very wide sampling of contemporary thought relating to the problem of edema. As such it serves a very useful purpose in cataloguing some divergent views of the problem and the numerous approaches to its clarification.

The papers, of which this symposium is composed, vary widely in scope and nature. In some instances the approach is general, while in other instances the authors confine themselves to little more than presentation of their own data.

As might be expected in a publication of this sort, some of the presentations are quite excellent while others are mediocre. This text is somewhat more than 800 pages long and the casual reader may gain the impression that a great deal is known regarding the causation of edema. Great emphasis is placed on hormonal imbalance as a cause of edema yet it is commonplace observation that adrenalectomized animals given access to high salt diets maintain the volume of their body fluids with a considerable degree of precision. It is unfortunate that this ability to regulate body fluid content in the absence of adrenal hormones is not sufficiently stressed.

In general, this is a worthwhile book in that it gives a panoramic, albeit somewhat kaleideoscopic, view of the problem of edema formation.

E. H. Bresler, M. D.

Electrocardiographic Techniques; Second Revised and Enlarged Edition, Kurt Schnitzer, M. D. 1960, Grune & Stratton, 109 p. Price, $4.75.

Page 1 in this text reminds one of the verbally inventive swindlers in *Huekleberry Finn;* for example the English derivatives from the Latin, *cor,* and the Greek, *kardia,* are confused and the statement is made that "in electrocardiographic terminology the whole atrium is called 'auricle'." The reader remains skeptical whenever the author subsequently talks about words: Does the V in V-leads really stand for Vector?

But when the author presents in thorough detail the technical aspects of electrocardiographic procedures, there is no complaint and the prime objective of the book is well fulfilled. This book is an excellent guide to standard electrocardiographic techniques and as such recommended to technicians who will assist physicians in obtaining electrocardiograms.

Leo G. Horan, M. D.

Your Child's Care: 1001 Questions and Answers; Harry Robert Litchfield, and L. H. Dembo; Rev. ed., Garden City, N. Y., Doubleday, 1960. 257 p. $3.95.

This is another (of many) "Baby Books" *for mothers;* like most of the others, it may be of some interest to physicians who find it useful to recommend such reading to parents. In this situation, of course, it is important for the physician to be quite familiar with the content of the reading he has recommended; in other words, he should try to "match" his mothers to the particular "baby book" which he believes will be most useful—and least disturbing—to her.

This volume seems well organized and indexed, and certainly the questions asked are those very familiar to pediatricians. The wording of most answers is in straightforward lay language, and would seem satisfactory for those mothers who are satisfied with "simple answers to simple questions". Medically, perhaps, some might feel that a number of the answers are a bit too "pat", but such criticism is understandable when one considers the purpose and expected readers of such works.

Though the physician in or entering practice might well be critical of or in disagreement with a number of "the answers", he would certainly profit by the preview this "baby book" provides for a reasonable volume and variety of questions commonly asked by mothers.

Incidentally, our library keeps a considerable collection of such books and pamphlets for parents, and many physicians have found these useful in occasional browsing to select the ones they might wish to recommend for any of a number of purposes.

R. V. Platou, M. D.

Cerebrospinal Fluid Dynamics in Health and Disease; by David Bowsher, M.A., M.D., B. Chir., Lecturer in Postgraduate Anatomy, University of Liverpool. American Lecture Series, C. C Thomas, 1960. 80 pp. $4.75.

This excellent little monograph simply and clearly reviews the principle lines of contemporary evidence bearing on the formation and absorption of cerebrospinal fluid in normal and diseased circumstances. Much of the evidence cited rests on the work of Sweet and his collaborators in which radio-isotopes of sodium, potassium and chloride ions and Deuterium oxide were used in normal and pre-hydrocephalic subjects. Bowsher's own work using proteins tagged with isotopic sulphur or iodine is also frequently cited.

A useful historical perspective is provided in which is identified names of persons first employing terms currently used to describe cerebrospinal fluid dynamics. Bowsher points out that modern work on CSF began with Magendie, the French physiologist, who thought that he was the first to discover these principles in 1875, although Cotugno had actually described these principles over 100 years previously.

Bowsher presents the interesting idea that the leptomeningeal-vascular pathway provides the most rapid route of absorption of CSF but that this pathway is properly a part of the reticuloendothelial system; therefore any therapeutic measures involving the reticuloendothelial system should influence CSF absorption significantly. Water is shown to be freely exchanged through all compartments and barriers separating the CSF from blood, whereas ions and proteins have variable degrees of penetration in different regions of the CSF system. Sodium, at least, is believed to be actively secreted in the choroid plexus which, because of its rich innervation and large numbers of secretory vacuoles, is sensitive to systemic influences in the production of sodium ion.

The author's views on hydrocephalus are most interesting since he postulates that the rate of absorption is reduced by closure of the leptomeningeal-vascular route leaving only the much slower and less efficient perineural-lymphatic exit for CSF. Removal of the choroid plexus is said to be the only efficacious treatment in most cases of communicating hydrocephalus; drainage techniques are rarely successful for very long although the latter technique is most useful for obstructive hydrocephalus. Erosion of the brain tissue in chronic hydrocephalus appears mainly to be confined to the white matter.

Some remarks are made in a concluding chapter concerning other disorders of CSF dunamics. Edstrom's theory of "barrier breakdown" is favored as an explanation for edema of brain tissue following inflammation or trauma. Each chapter closes with a useful summary of conclusions. Illustrations are well arranged and make clearer the evidence and conclusions cited in the text.

L. M. N. Bach

Light Coagulation; by Gerd Meyer-Schwickerath, M. D., Translated by Stephen M. Drance, M.B., F.R.C.S. (English). First Edition. Cloth, with 55 figures, including 7 in color. The C. V. Mosby Company, St. Louis, Mo., 1960. 114 p. $9.50.

The author of this monograph has developed an instrument which scientifically applies the long known principle of converting visible light into heat through absorption by pigment. In accordance with the Bunsen-Roscoe law, the coagulative effect of radiant energy upon pigmented lesions can be quantitated and thus controlled. The physical optics which had to be considered in the evaluation and development of the Zeiss Light Coagulator to its present form are discussed. The physical properties of the instrument are described, and detailed instructions for its use given.

About half of the book is devoted to the indications for light coagulation. Various intraocular and extraocular lesions are discussed and the technique of applying light coagulation, as well as the results and complications of the procedure are given. Illustrative case reports are presented. The management of retinal detachment and intraocular tumors with the coagulator is discussed in some detail, and the author's vast experience with these lesions is borne out by the numerous case presentations.

This excellently translated, well documented little book provides the ophthalmologist with the essential knowledge necessary for applying a new technique in the management of certain ocular lesions. As the author points out, however, experience with the coagulator should be gained from work with animal eyes before the instrument is used on humans.

Gustave C. Bahn, M. D.

Visual Aids in Cardiologic Diagnosis and Treatment. Edited by Arthur N. Naster, M. D. and Ephraim Donosa, M. D.; Grune & Stratton, N. Y., 1960, 216 pages; $10.00.

This monograph is a collection of papers presented to the meeting of the American College of Chest Physicians in 1959, the papers having been extended and supplemented by two additional papers covering angiocardiography.

The stated purpose of the monograph is "to present fundamental principles of and indications for the use of the more important graphic methods now available for the investigation and treatment of heart disease." Claims for completeness are expressly denied; it is frankly admitted that the "highlights of the problem" are considered, primarily to "alert and stimulate the interest of the practicing doctor".

In these prefacing remarks the authors have anticipated the main criticism of this reviewer: the sketchy, grossly incomplete and erratic treatment of the subject matter. This defect so pervades the book that it is rendered practically valueless either to students or to cardiologists, or to anyone else except the practitioner with only a dilettante's interest in cardiology. To illustrate with a few examples: there is a chapter entitled "Diagnostic Application of the Electrocardiogram" in which the only new concepts treated are those of systolic and diastolic overload patterns propounded by Cabrera and Monroy. In the chapter entitled "Fundamentals of Open Heart Surgery" the problems are dealt in four typewritten pages. The chapter entitled "Newer Methods of Localization of Shunts" fails to mention the hydrogen method, now in use in several prominent cardiovascular laboratories.

The two chapters on angiocardiography are valuable in that they are replete with excellent illustrations; throughout the book the illustrations are usually of good quality.

The last few chapters are devoted to various aspects of cardiac surgery, some of them dealing with the subject from points of view foreign to the average internist or general practitioner. For example, there is a chapter on problems of anesthesia. These may be enlightening.

In summary, the book is not recommended as a guide for the serious student or practitioner of cardiology. At best it may provide interesting material for the leisure hours of a general practitioner, internist, or other specialist with only passing interest in cardiology.

C. E. Burch, M. D.

Heart Sounds and Murmurs; by P. A. Ongley, M. D., Howard B. Sprague, M. D., M. B. Rappaport, and A. S. Nadas, M. D. Published by Grune and Stratton, 1960; 360 pages. $9.75.

The initial section of this volume briefly reviews the important historical events in the development of auscultation. Primarily, this section is devoted to the discussion of the physics of sound and a presentation of many of the technical aspects of phonocardiography. Much of this information is based on the original work of the authors. Although a great deal of practical and useful information is contained in this section, it reaches beyond the technical need of the student and the average practitioner. However, the researcher in the field of phonocardiography undoubtedly will require much more extensive detail than is contained in this work.

The principal value of this publication lies in the sections dealing with the clinical evaluation of heart sounds and murmurs. The changes that occur in acquired and congenital heart disease are adequately described in a clear and concise style of writing. The use of appropriate subtitles results in ease of reading and retention of the subject matter. As is common to all works of this type, illustrative phonocardiographs are utilized as an aid to the understanding of the physiologic mechanisms involved. Appropriately the authors give particular emphasis to their coverage of mitral valve disease. Ample references are given throughout the book at the termination of each chapter.

The authors fail to discuss friction rubs and extracardiac sounds although these are important auscultatory phenomena. There is also minimal use of historically important eponyms. On page 158, transposition was misspelled "transportation." No other typographical errors were uncovered. Very likely to the gratification of the majority the author devotes little attention to the usually confusing pro and con supportive data relative to the origin of various sounds and murmurs.

Although no new information is contained in this book, it should be popular with students and clinicians because of the excellent and understandable style of presentation.

G.E. Burch, M. D.

A Synopsis of Contemporary Psychiatry; by George A. Ulett and D. Wells Goodrich. St. Louis: C. V. Mosby Company, 1960. 2d ed., 309 p. $6.50.

This reviewer feels that the Introduction accurately describes this handy, concise, practical synopsis. It is clearly written and devoid of theoretical formulations, except for widely accepted basic concepts. The bibliography also is brief but well-selected and up-to-date, which is rare among psychiatric texts.

The only suggestion that this reviewer might raise is that possibly too many subjects are attempted and that it might be preferable to spend more time on the psychoneuroses, instead of describing such techniques as psychosurgery.

R. Wells Buddington, M. D.

PUBLICATIONS RECEIVED

Budlong Press Co., Chicago: What Teenagers Want to Know, by Florence Levinson in consultation with G. Lombard Kelly, M. D.

W. B. Saunders Co., Philadelphia: Pathologic Physiology, Mechanisms of Disease, by William A. Sodeman, M. D.; Mayo Clinic Diet Manual, by The Committee on Dietetics of the Mayo Clinic (3rd edit.); Thoracic Diseases, Emphasizing Cardiopulmonary Relationships, by Eli H. Rubin, M. D., and Morris Rubin, M. D.

Charles C Thomas, Publisher, Springfield, Ill.: Speech and Hearing Problems, by Charles E. Palmer, Ph.D.; The Chemotherapy of Tropical Diseases, by Sir Philip Manson-Bahr, M. D., and John H. Walters, M. D.



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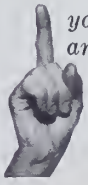
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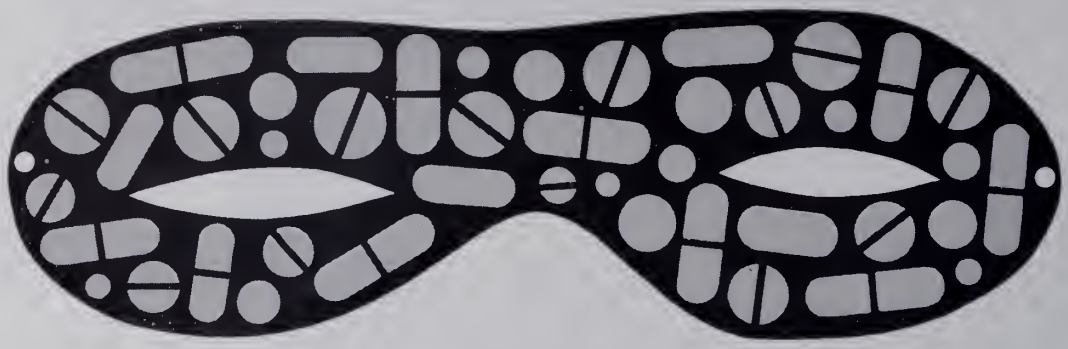


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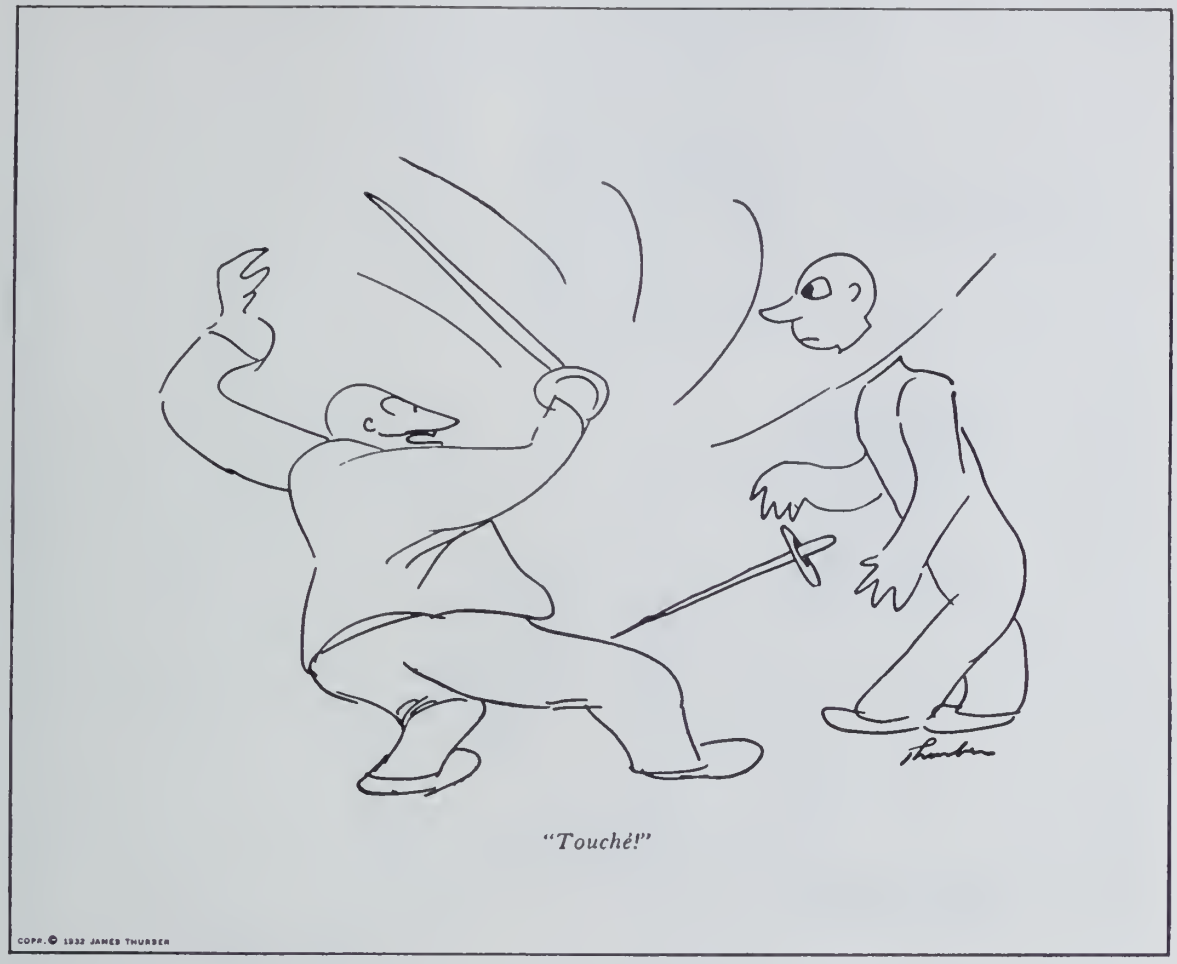
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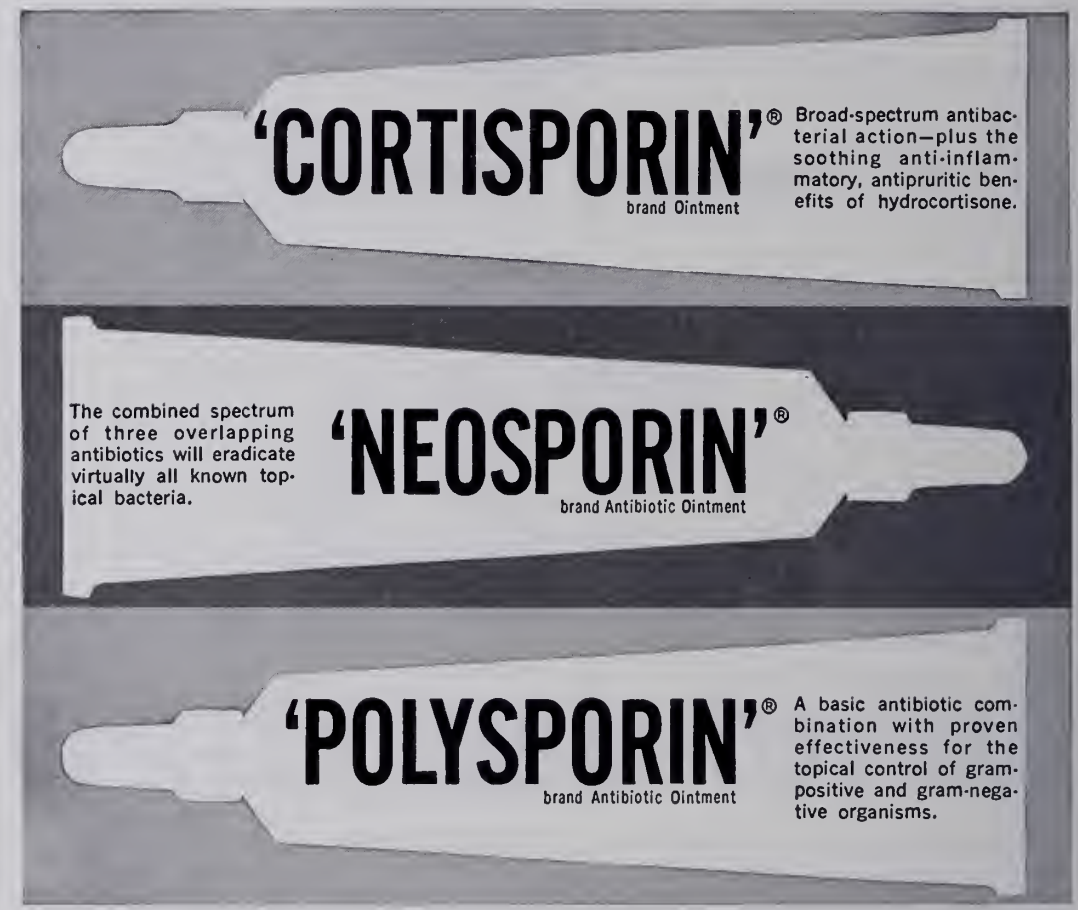
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Bibliography *(13 clinical studies, 858 patients)*: **1.** Alexander, L. (35 patients): Chematherapy of depression – Use of meprobamate combined with benactyzine (2-diethylaminoethyl benzilate) hydrachloride. J.A.M.A. 166:1019, March 1, 1958. **2.** Bateman, J. C. and Carlton, H. N. (50 patients): Meprabamate and benactyzine hydrochloride (Depral) as adjunctive therapy for patients with advanced cancer. Antibiatic Med. & Clin. Therapy 6:648, Nov. 1959. **3.** Beerman, H. M. (44 patients): The treatment of depressian with meprabamate and benactyzine hydrachloride. Western Med. 1:10, March 1960. **4.** Bell, J. L., Tauber, H., Santy, A. and Pulita, F. (77 patients): Treatment of depressive states in office practice. Dis. Nerv. System 20:263, June 1959. **5.** Breitner, C. (31 patients): On mental depressians. Dis. Nerv. System 20:142, (Sectian Two), May 1959. **6.** Gardon, P. E. (50 patients): Depral in the treatment of depressian. Dis. Nerv. System 21:215, April 1960. **7.** Landmon, M. E. (50 patients): Clinical trial of a new antidepressive agent. J. M. Soc. New Jersey. In press, 1960. **8.** McClure, C. W., Papas, P. N., Speare, G. S., Palmer, E., Slattery, J. J., Kanefal, S. H., Henken, B. S., Woad, C. A. and Ceresia, G. B. (128 patients): Treatment of depressian – New technics and therapy. Am. Pract. & Digest Treat. 10:1525, Sept. 1959. **9.** Penningtan, V. M. (135 patients): Meprabamate-benactyzine (Deprol) in the treatment of chranic brain syndrome, schizaphrenia and senility. J. Am. Geriatrics Soc. 7:656, Aug. 1959. **10.** Rickels, K. and Ewing, J. H. (35 patients): Depral in depressive conditians. Dis. Nerv. System 20:364, (Section One), Aug. 1959. **11.** Ruchwarger, A. (87 patients): Use of Deprol (meprabamate cambined with benactyzine hydrachlaride) in the affice treatment of depressian. M. Ann. District of Calumbia 28:438, Aug. 1959. **12.** Settel, E. (52 patients): Treatment of depressian in the elderly with a meprabamate-benactyzine hydrachlaride cambinatian. Antibiatic Med. & Clin. Therapy 7:28, Jan. 1960. **13.** Splitter, S. R. (84 patients): Treatment of the anxiaus patient in general practice. J. Clin. & Exper. Psychopath. In press, April-June 1960.

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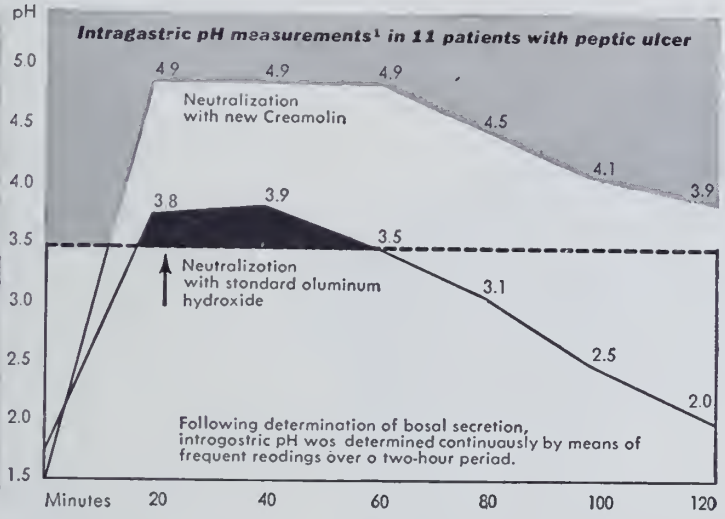
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in vivo
neutralizes
40 to 50 per cent
faster—
twice as long at
pH 3.5 or above





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Antacid Tablets

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takes up more acid

Heals ulcer fast—action more prolonged *in vivo*

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Each new Creamalin antacid tablet contains 320 mg. of specially processed, highly reactive dried aluminum hydroxide gel (stabilized with hexitol) with 75 mg. of magnesium hydroxide. New Creamalin tablets are pleasant tasting and smooth, not gritty. They do not cause constipation or electrolyte disturbance.

Dosage: Gastric hyperacidity—from 2 to 4 tablets as needed.
Peptic ulcer or gastritis—from 2 to 4 tablets every two to four hours.

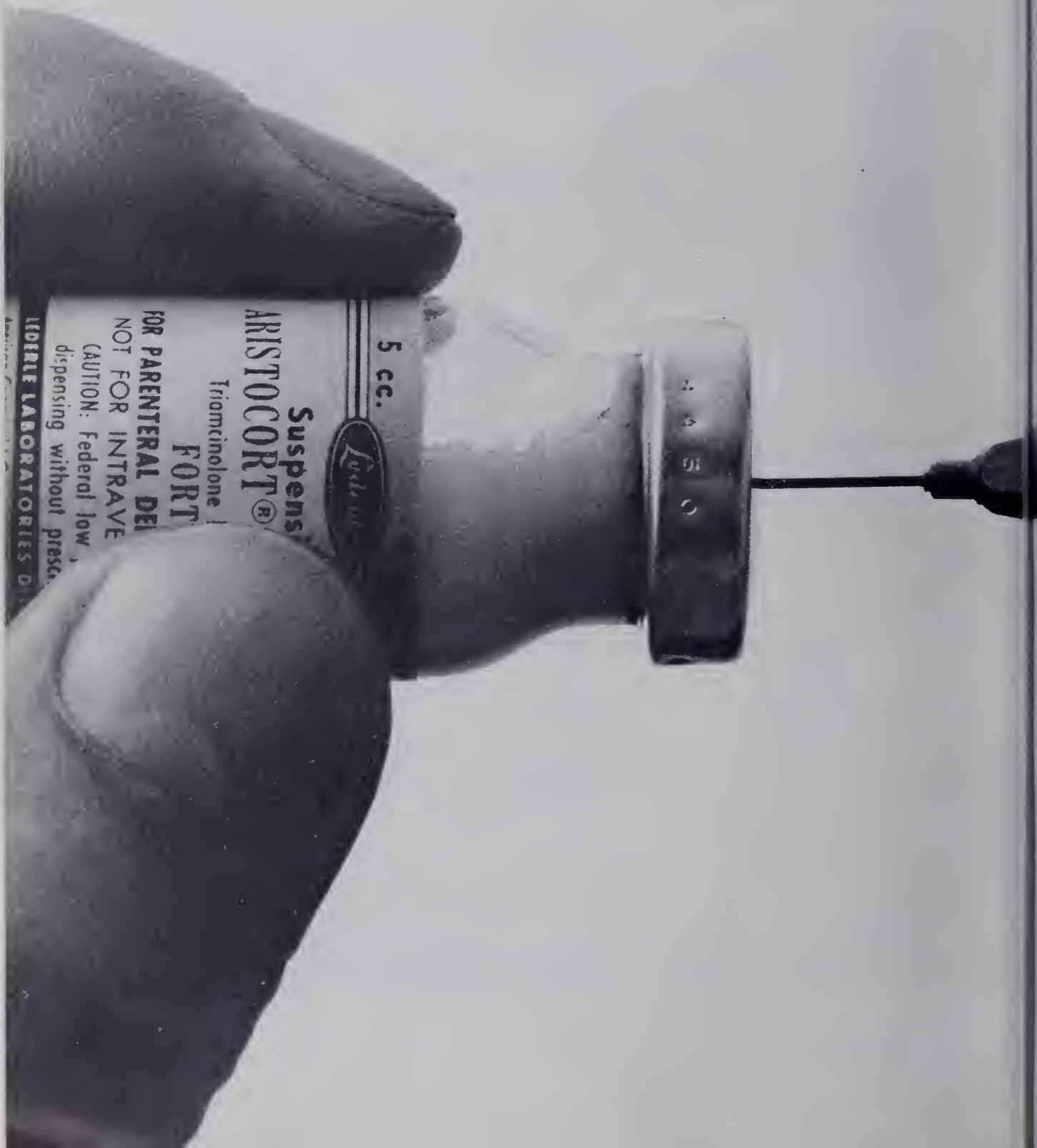
How Supplied: Creamalin Tablets, bottles of 50, 100, 200 and 1000.
Also available: New Creamalin Liquid (1 teaspoon=1 tablet),
bottles of 8 and 16 fl. oz.

References: **1.** Schwartz, I. R.: *Current Therap. Res.* 3:29, Feb., 1961. **2.** Beekman, S. M.: *J. Am. Pharm. A.* (Scient. Ed.) 49:191, April, 1960. **3.** Hinkel, E. T., Jr.; Fisher, M. P., and Tainter, M. L.: *J. Am. Pharm. A.* (Scient. Ed.) 48:381, July, 1959. **4.** Data in the files of the Department of Medical Research, Winthrop Laboratories. **5.** Hinkel, E. T., Jr. ; Fisher, M. P., and Tainter, M. L.: *J. Am. Pharm. A.* (Scient. Ed.) 48:384, July, 1959.

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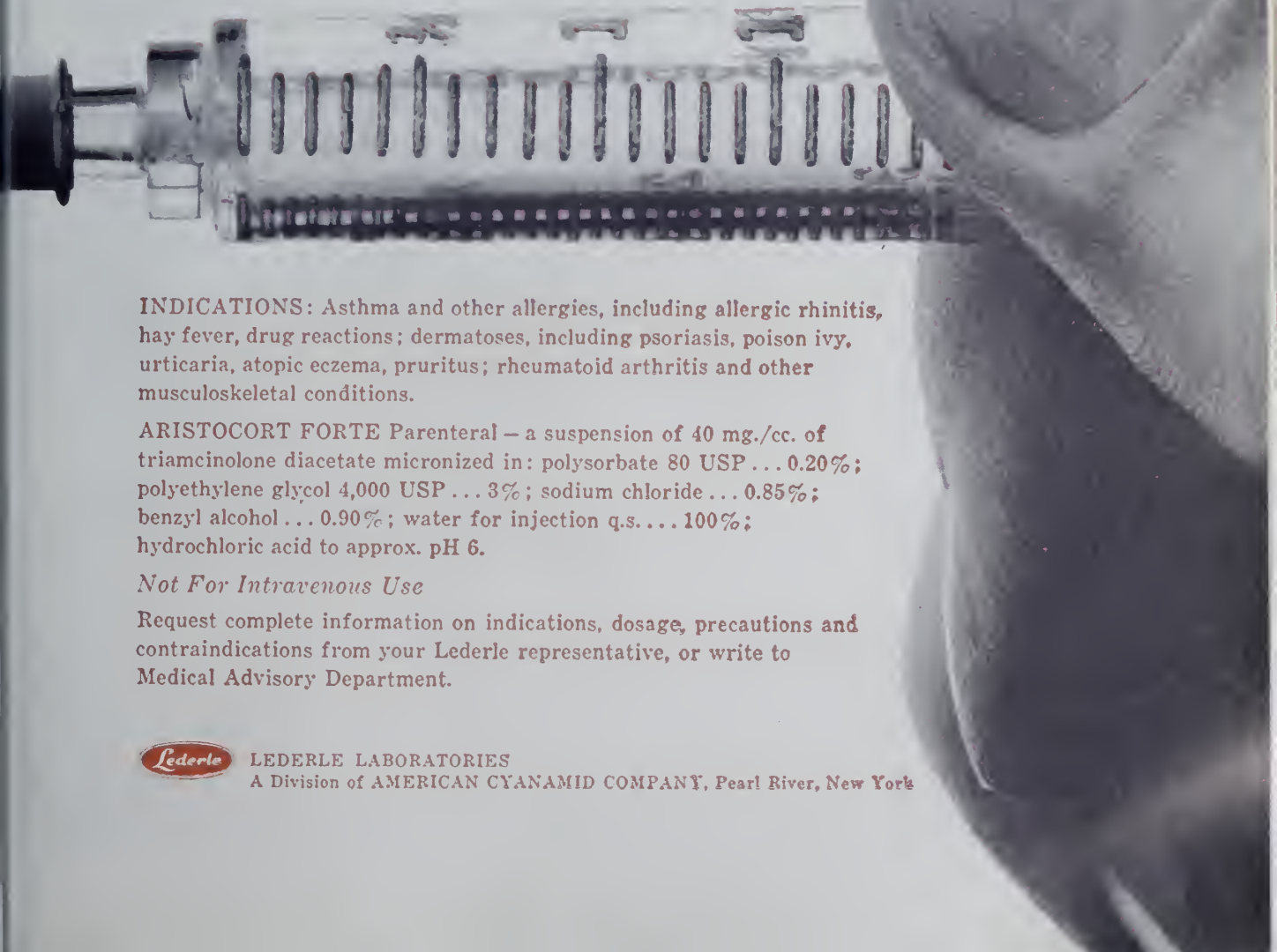
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ARISTOCORT FORTE Parenteral – a suspension of 40 mg./cc. of triamcinolone diacetate micronized in: polysorbate 80 USP . . . 0.20%; polyethylene glycol 4,000 USP . . . 3%; sodium chloride . . . 0.85%; benzyl alcohol . . . 0.90%; water for injection q.s. . . . 100%; hydrochloric acid to approx. pH 6.

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"nutrition...present as a modifying or complicating factor in nearly every illness or disease state"[1]

1. Youmans, J. B.: Am J Med 25:659 (Nov.) 1958

cardiac diseases "Who can say, for example, whether the patient chronically ill with myocardial failure may not have a poorer myocardium because of a moderate deficiency in the vitamin B-complex? Something is known of the relationship of vitamin C to the intercellular ground substance and repair of tissues. One may speculate upon the effects of a deficiency of this vitamin, short of scurvy, upon the tissues in chronic disease."[2] 2. Kampmeier, R. H.: Am J Med 25:662 (Nov.) 1958

arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]

3. Fernandez-Herlihy, L.: Lahey Clinic Bull. 11:12 (July-Sept.) 1958

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition. National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57

degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser, W., and Fong, T. C. C.: in Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G. A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]

8. Duncan, G. G.: Diseases of Metabolism, 4th edition, W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

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REFERENCES

1. Roth, J.L.A. and Bockus, H.L.: Aerophagia—Med. Clin. N. Am. *41*:1673 (Nov.) 1957
2. Alvarez, W.C.: Gas in the Bowel: An Introduction to Gastroenterology; Paul B. Hoeber, Inc. Alvarez, W.C.; Syndrome of Reverse Peristalsis: Ibid
3. Barondes, R. de R. et al: The Silicones in Medicine. Mil. Surg. *106*:378, 1950
4. Cutting, W.: Toxicity of Silicones. Stanford M. Bull. *10*:23 (Feb.) 1952
5. Dailey, M. and Rider, J.: Silicone Antifoam Tablet in Gastroscopy. J.A.M.A. 155:859 (June) 1954
6. Rider, J.A. and Moeller, H.C.: Use of Silicone in the Treatment of Intestinal Gas and Bloating. J.A.M.A. *174*:2052 (Dec.) 1960
7. Rider, J.A.: Intestinal Gas and Bloating: Treatment with Methylpolysiloxane. Am. Pract. & Digest Treat. *11*:52 (Jan.) 1960

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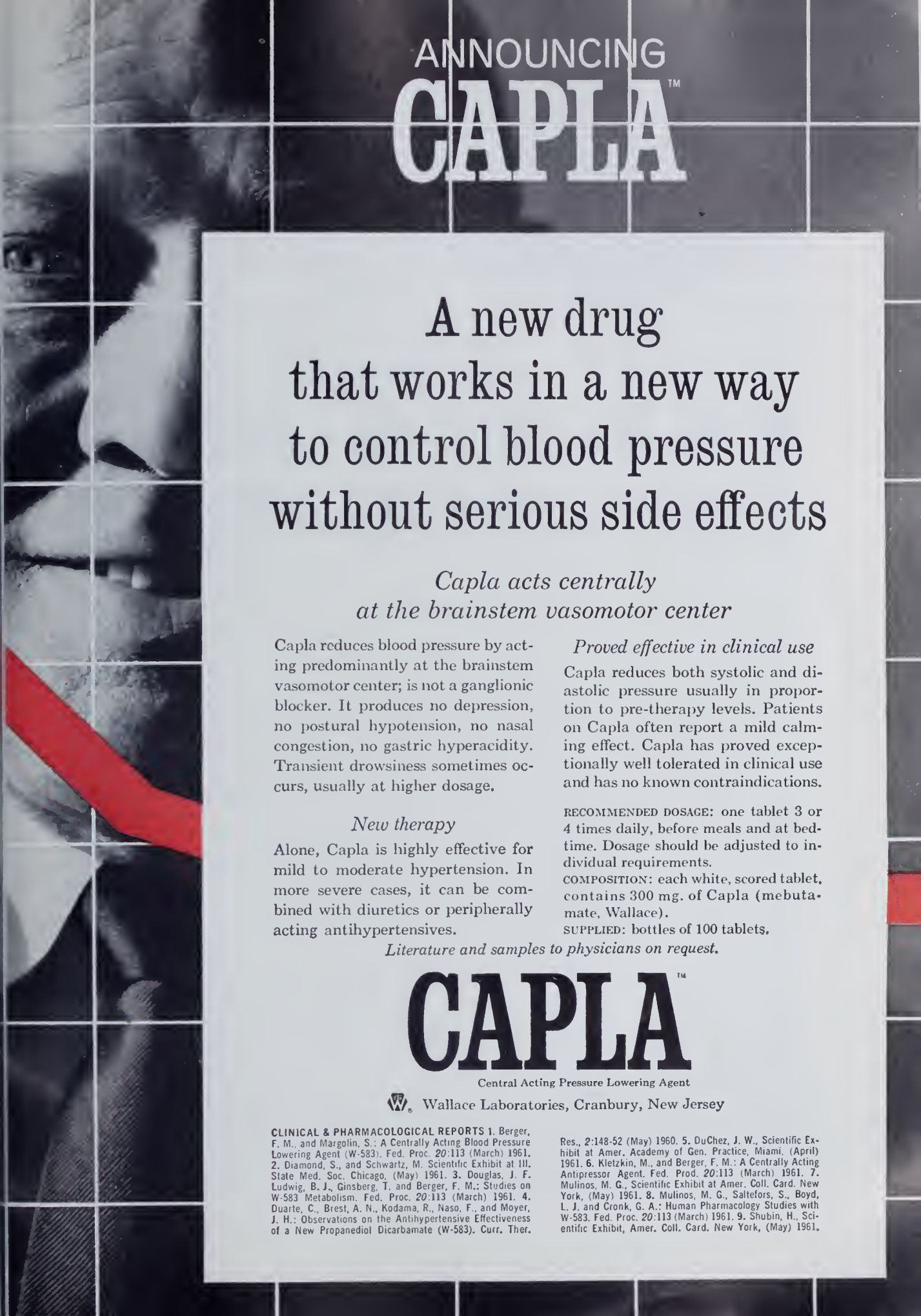
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CLINICAL & PHARMACOLOGICAL REPORTS 1. Berger, F. M., and Margolin, S.: A Centrally Acting Blood Pressure Lowering Agent (W-583). Fed. Proc. *20*:113 (March) 1961. 2. Diamond, S., and Schwartz, M. Scientific Exhibit at Ill. State Med. Soc. Chicago, (May) 1961. 3. Douglas, J. F. Ludwig, B. J., Ginsberg, T. and Berger, F. M.: Studies on W-583 Metabolism. Fed. Proc. *20*:113 (March) 1961. 4. Duarte, C., Brest, A. N., Kodama, R., Naso, F., and Moyer, J. H.: Observations on the Antihypertensive Effectiveness of a New Propanediol Dicarbamate (W-583). Curr. Ther. Res., *2*:148-52 (May) 1960. 5. DuChez, J. W., Scientific Exhibit at Amer. Academy of Gen. Practice, Miami, (April) 1961. 6. Kletzkin, M., and Berger, F. M.: A Centrally Acting Antipressor Agent. Fed. Prod. *20*:113 (March) 1961. 7. Mulinos, M. G., Scientific Exhibit at Amer. Coll. Card. New York, (May) 1961. 8. Mulinos, M. G., Saltefors, S., Boyd, L. J. and Cronk, G. A.: Human Pharmacology Studies with W-583. Fed. Proc. *20*:113 (March) 1961. 9. Shubin, H., Scientific Exhibit, Amer. Coll. Card. New York, (May) 1961.



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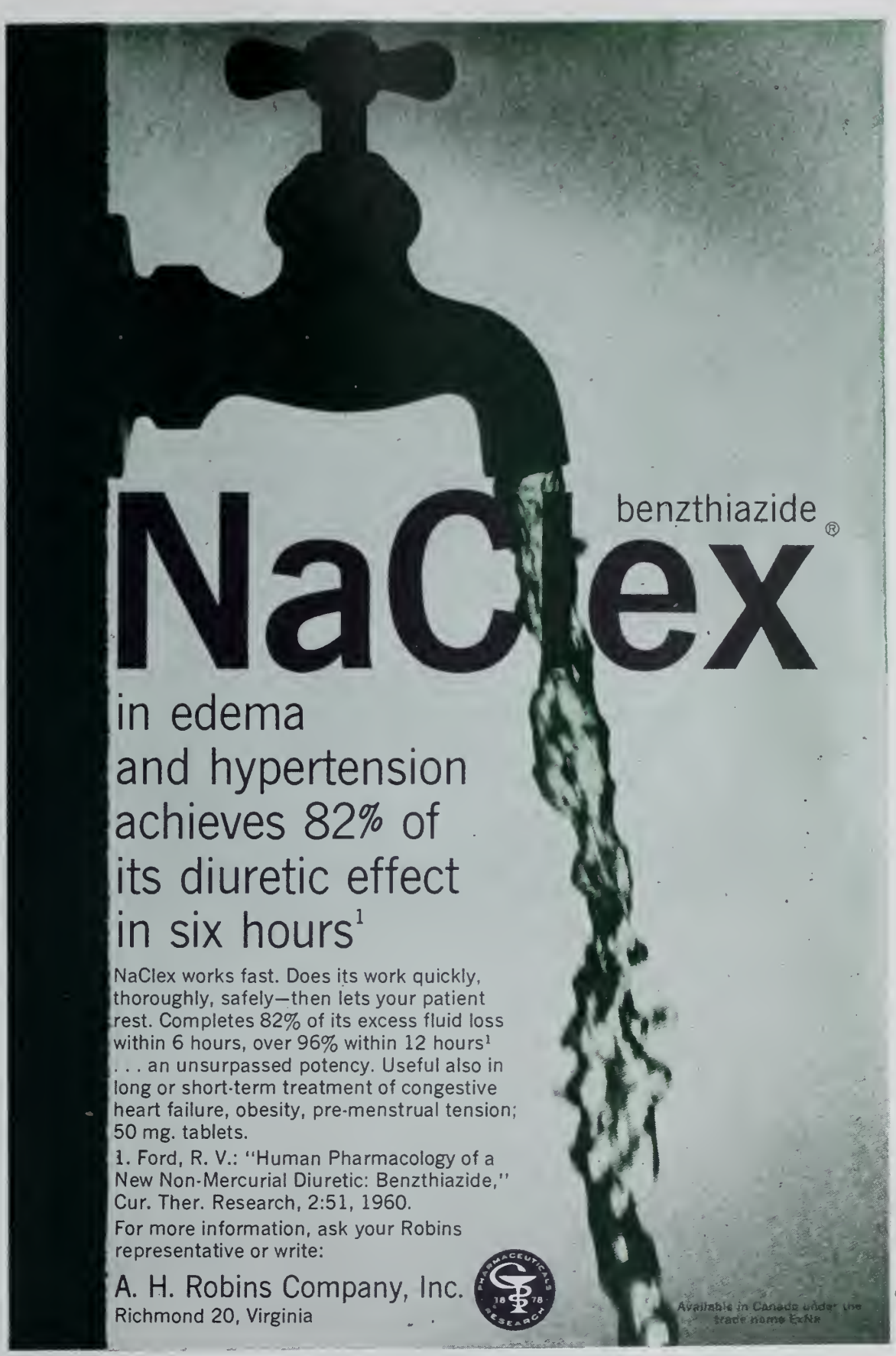
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1. Ford, R. V.: "Human Pharmacology of a New Non-Mercurial Diuretic: Benzthiazide," Cur. Ther. Research, 2:51, 1960.
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(1) Danowski, T. S.: Diabetes Mellitus, Baltimore, Williams & Wilkins, 1957, p. 239. (2) McCune, W. G.: M. Clin. North America 44:1479, 1960. (3) Ackerman, R. F., et al.: Diabetes 7:398, 1958.

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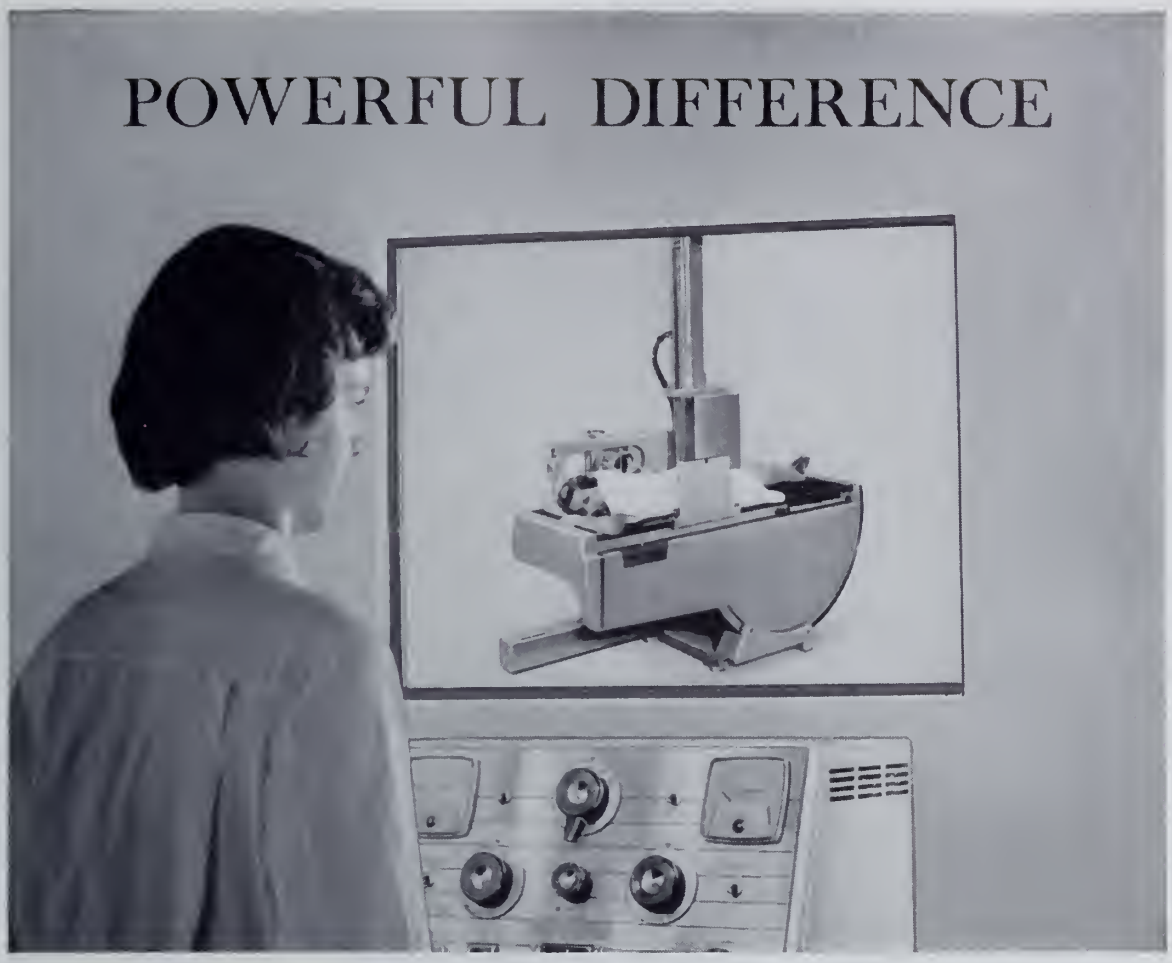
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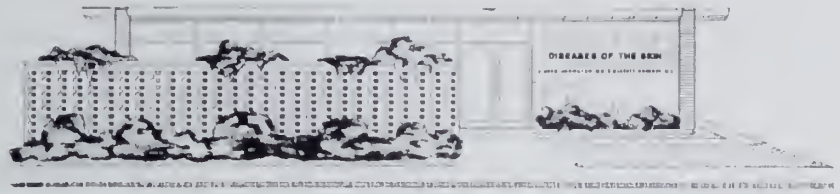
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INFLUENZA SEASON

Dr. Luther L. Terry, Surgeon General of the Public Health Service, reported recently that an upswing in the influenza cycle is likely to hit this country during the fall and winter.

He recommended immediate vaccinations for persons in the three groups which accounted for most of the 86,000 flu-triggered deaths between September, 1957 and March, 1960. These groups are: Persons with heart disease, pulmonary disease, diabetes and other chronic illnesses; persons over 65, and pregnant women.

"We are probably due for some Asian flu outbreaks, since they come in 2 to 3 year cycles, and we are overdue for Type B flu outbreaks which come in 4 to 6 year cycles," Dr. Terry said. "Asian flu has been dormant here since March, 1960 and it has been more than six years since we had much Type B flu in this country."

Both types of flu were prevalent in other countries in the 1960-61 flu season, notably in England where flu was the direct cause of more than 1,000 deaths and the indirect cause of several more thousands. In 1951, when England had a similar epidemic, it reached this country the following year, Dr. Terry noted.

The Public Health Service is alerting physicians and health officers to include flu immunization in medical care provided under public assistance programs.

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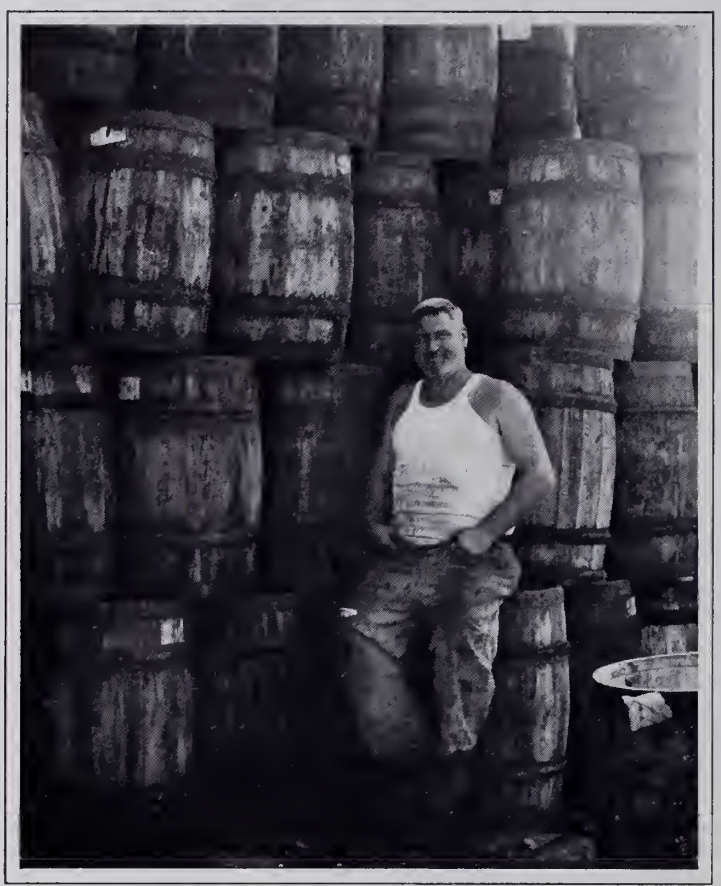
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This distinction appears to be no longer necessary since glucosamine, a highly acceptable excipient for oral antibiotics, now is being incorporated uniformly in all such forms, thereby simplifying nomenclature and your prescription writing.

Accordingly, and effective immediately, forms incorporating glucosamine will be offered simply as Terramycin without the "Cosa" prefix.

To make clear just which forms are affected, please refer to the brief tabulation (below) of Terramycin dosage forms both *before* and *after* this change. We are also requesting our representative to call on you at an early date to answer any questions that may arise.

We feel certain that this action, prompted by your comments and those of many other physicians, will simplify your writing of prescriptions for Terramycin products.

We welcome your comments on this action and on any other phase of our operations, since it is our objective to render every service as efficiently as possible to our friends in the medical profession.

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The following table indicates the former name and the current name of Terramycin systemic preparations:

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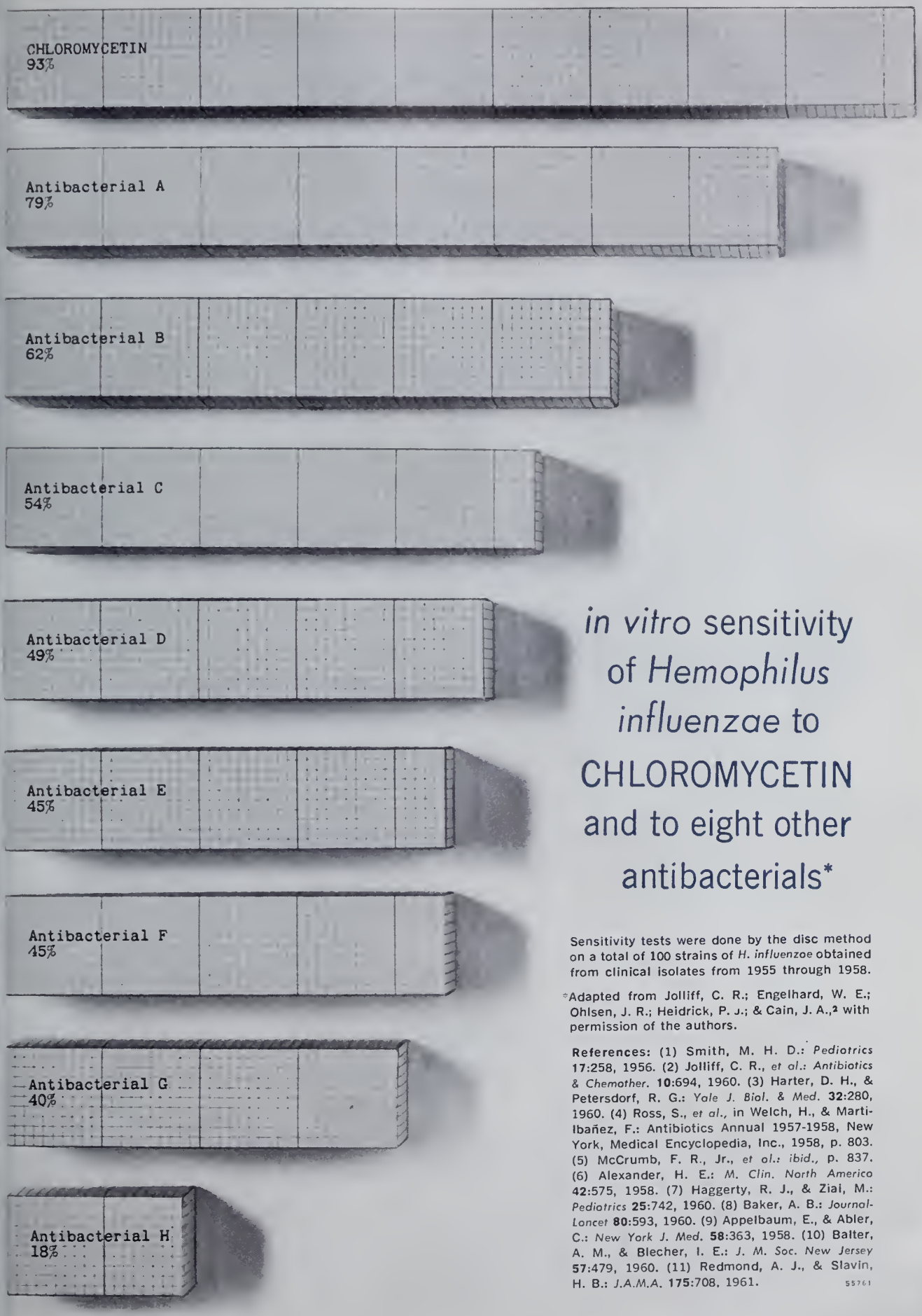
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References: (1) Smith, M. H. D.: *Pediatrics* **17**:258, 1956. (2) Jolliff, C. R., *et al.*: *Antibiotics & Chemother.* **10**:694, 1960. (3) Harter, D. H., & Petersdorf, R. G.: *Yale J. Biol. & Med.* **32**:280, 1960. (4) Ross, S., *et al.*, in Welch, H., & Martí-Ibañez, F.: Antibiotics Annual 1957-1958, New York, Medical Encyclopedia, Inc., 1958, p. 803. (5) McCrumb, F. R., Jr., *et al.*: *ibid.*, p. 837. (6) Alexander, H. E.: *M. Clin. North America* **42**:575, 1958. (7) Haggerty, R. J., & Zial, M.: *Pediatrics* **25**:742, 1960. (8) Baker, A. B.: *Journal-Lancet* **80**:593, 1960. (9) Appelbaum, E., & Abler, C.: *New York J. Med.* **58**:363, 1958. (10) Balter, A. M., & Blecher, I. E.: *J. M. Soc. New Jersey* **57**:479, 1960. (11) Redmond, A. J., & Slavin, H. B.: *J.A.M.A.* **175**:708, 1961.

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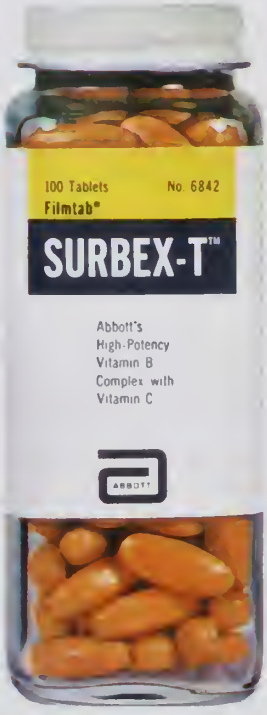
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Nicotinamide	100 mg.
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Case history courtesy of Joel Goldman, M.D., Johnstown, Pa.
These photographs of Dr. Goldman's patient were taken on November 10, 1960.

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Injuries of the Urinary Tract*

• The treatment of these injuries together with the medico-legal aspects of the problem are gone into carefully and thoroughly.

THOMAS E. GIBSON, M. D.
San Francisco

Introduction

MANAGEMENT of the patient with urinary tract injury aims to restablish an intact urinary tract, control hemorrhage and to conserve the involved urinary organs. To achieve this goal, accurate diagnosis must precede definitive therapy.

Despite the protection afforded the kidney by its deep position and shelter of surrounding structures, it is often injured by various forms of trauma that leave neighboring organs and structures unharmed. Approximately four-fifths of kidney injuries occur without injury to other structures. However, in the lower urinary tract, particularly in the male, the problem is often urogenital since the two systems are closely integrated.

Automobile collisions, industrial and sport accidents account for the great majority of wounds. Approximately twenty per cent of injuries occur in children. Bicycles, velocipedes, scooters and skates account for a goodly number of childhood casualties. One of my former residents in urology lost a kidney as a result of a football injury sustained in a high-school football game. Penetrating missiles or sharp objects may damage the kidney. In a personal case a revolver bullet necessitated nephrectomy and, strangely, no other viscus was involved. Statistics from the South show a high percentage of knife wounds, while in the North the automobile is chief offender.

Medico-Legal Aspects

A very important phase of injuries to the urinary tract, *and this applies to all injuries*, are their medico-legal and industrial aspects. We are inclined to neglect this most important aspect of injuries in our single-minded effort to treat the patient and get him well. It is my firm conviction that medical schools should provide instruction that familiarizes students with at least the general principles of court procedure and the real or potential medico-legal problems that are bound to confront them in actual practice.

Much as we may dislike this phase of medical practice, we should expect and be prepared, as a specialist or general practitioner to testify in court, submit reports, or render opinions concerning the

* Presented at the Twenty-fourth Annual Meeting of the New Orleans Graduate Assembly, March 6-9, 1961, New Orleans.

diagnosis and treatment in cases of industrial or accidental injuries. The doctor's appearance in court is not only an obligation, but essential to the administration of justice and a correct legal decision. He should be able to uphold the dignity of the medical profession by knowing how to conduct himself on the witness stand, thereby avoiding embarrassment and humiliation at the hands of clever cross-examiners who are too often interested only in confusing the issue, with frequent miscarriage of justice.

Because of the possible medico-legal aspects of trauma of any sort, it is most important to record in minute detail an accurate history of the injury and the results of a meticulous examination.

Injuries of the Kidney

It is well to remember that relatively light trauma may injure a kidney with silent, pre-existing disease, such as hydronephrosis, renal calculi, cysts, tumors or chronic infection. I emphasize the word *silent* because many different diseases of the kidney can insidiously lead to its destruction without the patient's knowledge that anything is wrong. In court the medical expert must be alert to forestall attempts of the claimant to attribute the pre-existing disease to the alleged injury. It has been my misfortune to be involved in several cases of this kind. For example, a freight car conductor was thrown off balance when the engineer stopped the train rather suddenly. He complained of some injury to his back, but on examination no evidence of injury could be found. He had no hematuria, not even microscopic hematuria. One of the most important rules to remember is that injury to the kidney, even though a minimal contusion, almost invariably produces red blood cells in the urine. This man had none. However, on urological investigation he was found to have a left kidney destroyed by an old calculous pyelonephritis in no way related to the recent injury. As often happens in a jury trial when the plaintiff appears as an individual against a corporation (in this case the railroad) he won the jury's sympathy and an award of $37,500.00.

The kidney is the most vascular organ in the body and therefore vulnerable to profuse hemorrhage manifesting itself in the urine and in the perirenal tissues. The kidney may be likened to a ball of fluid and the impact of a blow is transmitted in all directions within the organ. Sargent and Marquardt classify renal injuries with respect to severity into three groups:

A. **Contused Kidney** (58 per cent). The injury consists of superficial laceration, minimal shock and pain, no mass in the loin, hematuria microscopic or macroscopic, normal perirenal shadows by x-ray and almost intact pyelogram.

B. **Fractured Kidney** (35 per cent). Greater degree of shock, pain in the loin, muscular rigidity, possibly a palpable mass in the loin (due to extravasation of blood or urine or both), hematuria (gross). Pyelograms may show opaque medium passing from pelvis into parenchyma or through the renal capsule into the perirenal tissue. The perirenal fascia will confine the extravasation to the area immediately surrounding the kidney.

C. **Fragmentation of Kidney** (9 to 17 per cent). The clinical picture reflects massive blood loss with urinary extravasation, producing a rapidly increasing mass in the flank and profound shock. Fragmentation of the kidney may include tearing of major vessels or complete disruption of the renal pedicle. Such cases demand prompt surgical intervention as a life-saving measure without the opportunity for preliminary study.

The contused kidney (A) will heal with conservative treatment. In the fractured kidney (B) non-surgical management is preferable until a definite indication for surgical intervention is observed. Urine does not extravasate from the torn kidney surface unless a calyx or the renal pelvis is involved. It is important with respect to treatment to remember that a certain amount of hematoma and even extravasated urine can be reabsorbed without residual damage. Unlike ruptures of the

liver or spleen, bleeding about the kidney tends to be contained to a degree by the surrounding capsule which fortunately exerts a tamponade effect.

The most important immediate diagnostic procedure following initial clinical evaluation and treatment of shock is x-ray examination. A routine plain K.U.B. (kidneys-ureters-bladder scout film of the abdomen) followed by intravenous urography should be carried out. Retrograde pyelography may be done (patient's condition permitting) if intravenous studies are not sufficiently revealing. Complete bed rest is mandatory. Usually gross hematuria will subside in a period of two or three days but may keep up for as long as two weeks.

Conservative treatment is advocated because a hasty operation often means a hasty nephrectomy in cases where the kidney might have been saved by judicious waiting. Personal experience indicates that about eighty per cent of cases can be handled by conservative treatment. The pressure of increasing renal tumefaction, unrelenting hematuria, x-ray or clinical evidence of extravasation of urine or severe persistent pain is indication for surgical exploration. An important sign of increasing hematoma or urinary extravasation is severe pain radiating down to the groin or testicle. It is of course necessary to know the condition of the opposite kidney and to evaluate its functional capacity in dealing surgically with the injured kidney, and also the presence or absence of injury to other organs.

Regardless of whether or not the injured kidney is treated surgically it should be re-evaluated in two or three months, and again in six months by intravenous urography because of the possibility that scar tissue obstruction of the ureter might cause hydronephrosis, unresolved hematomas which may become calcified, and secondary pyelonephritis.

Injuries of the Ureter

Due to its small caliber and deep position the ureter is not often involved in the type of injuries which so often affect the kidney. Trauma to the ureter is most often sustained as a result of surgical injuries incidental to operations on the pelvic organs, especially hysterectomy. Resection of the large bowel for neoplasms may likewise result in ligation or section of the ureter. It is always well to precede pelvic surgery with intravenous urography, and more frequent use of indwelling ureteral catheters during surgery is heartily recommended. The ureters are in close juxtaposition to the cervix and uterine arteries, rendering them extremely vulnerable to surgical accidents. I have seen instances in which inadvertent ligation of a ureter during pelvic surgery has gone unrecognized because it did not produce appreciable immediate symptoms. The ligated ureter does not cause renal atrophy. On the contrary, hydronephrosis develops which may years later cause symptoms necessitating nephrectomy. In one personal case the hysterectomy was done two years earlier, and in another twelve years. In the latter case the kidney was a thin walled sac containing over 1000 cc. of fluid. Accidental obstruction of both ureters results in anuria and demands prompt surgical intervention as a life saving measure.

Injuries of the Bladder

In civil life rupture is the usual consequence of injury to the bladder, whereas in war perforation by missiles is the usual injury. Ruptures may be intra- or extraperitoneal. Injuries causing fracture of the pelvis are most often associated with extraperitoneal rupture. If distended, the bladder can be easily ruptured by an external blow or even sudden pressure. This is especially true of the hypalgesic bladder of the alcoholic or tabetic person. The clinical evidence of rupture is swelling and rigidity of the lower abdomen and inability to void together with pain and shock. Catheterization often yields urine which is not at all blood-stained.

The most important diagnostic measures are intravenous urography and retrograde cystography. The latter procedure is more effective in revealing extravasa-

tion. The urethra should not be overlooked, because the prostatic and bulbomembranous portions of the urethra are prone to injury as a result of their attachments under the pubic arch. It is not uncommon to see the prostatic urethra completely avulsed and torn away from the bulbomembranous urethra in crushing injuries of the pelvis, leaving the bladder and prostate floating free in the pelvis in a pool of blood and urine. I have not found this such a formidable problem to handle, because it is not difficult to do a cystotomy and re-establish the continuity of the urethra with a Foley catheter using gentle traction to bring the prostate back to its normal position. The urethra will coapt and heal without the use of sutures if the catheter is maintained in place for ten days to two weeks. In rupture of the bladder it is interesting to note that clean urine escaping into the peritoneal cavity does not irritate the peritoneum and peritonitis will not occur unless the urine is infected. In a personal case the patient under the influence of alcohol fell over the foot of his bed and ruptured an overdistended bladder. At operation a loop of ileum was found protruding into the bladder through a rent in its posterior wall. Four thousand cubic centimeters of urine were aspirated from the peritoneal cavity. The latter revealed no evidence of inflammatory reaction, and the patient made a prompt recovery.

Injuries of the Urethra

Injuries to the urethra are of serious import because of stricture formation, requiring treatment (in many instances) for the rest of the patient's life.

Injuries involving fracture of the pelvis, as I have already mentioned, are frequently associated with rupture of the bladder, but perhaps more frequently with rupture of the urethra. Both lesions may occur in the same patient. Fractures of the pelvis most often cause rupture of the urethra proximal to the urogenital diaphragm, with intrapelvic extravasation. The most common urethral injuries in my experience have been the so-called "straddle injuries", caused by falling astride some hard object so that sudden force is exerted against the perineum, compressing the bulbomembranous urethra against the pubic arch. Hemorrhage and urinary extravasation in these cases is distal to the urogenital diaphragm and extends within the confines of Colle's fascia and eventually beneath Scarpa's fascia of the abdomen. These injuries differ from others in the urinary tract by the absence of immediate urinary extravasation. Urine escapes into the tissues only when the patient attempts to void and finds that he cannot do so. Blood only, will ooze from the urethra, and efforts at catheterization usually fail because of loss of continuity of the urethral mucosa. Such efforts usually provoke fresh hemorrhage as well as "urethral chills" as a result of bacteremic shock unless pursued with meticulous attention to asepsis and gentle manipulation. It is most important to cleanse the external area with Phisohex or Septisol and to irrigate the anterior urethra with some antiseptic solution such as 1-10,000 zephiran before attempting to pass a catheter. If the catheter does not pass easily no force should be used. Forcible manipulation may be lethal. It is far safer to do a cystotomy and then to re-establish the continuity of the urethra by an antegrade procedure, immediately, if the patient's general condition permits or at a later date if other considerations prevent its immediate accomplishment.

The surgical technic of restoring the continuity of the urethra is comparatively simple in the hands of someone experienced in this field. The Davis interlocking sounds are of great help but not absolutely essential. I prefer to have the patient in lithotomy position so as to have access to both the perineum and the suprapubic area. The female sound is first passed down through the cystotomy wound into the prostatic urethra until its tip can be palpated in the perineum. The male sound is then passed into the external urethral meatus and anterior urethra

until the two sounds come together. The male sound then follows the female sound on into the bladder. It is then a simple matter to attach a catheter and draw it through the entire urethra where it is left indwelling for about two weeks, by which time the continuity of the urethra will be re-established. An alternate procedure, which is easily carried out, is to pass a coudé catheter or a metal catheter through the cystotomy wound and incise the perineum directly over the tip of the catheter when it is palpated in the perineum. A Foley catheter, preferably 24 or 26 F, passed by way of the anterior urethra down to the perineal incision, is attached to the other catheter and drawn into the bladder. I believe that the perineal incision is in general, an advantage, as it permits better drainage of the ruptured area and therefore reduces the likelihood of stricture formation. No sutures are necessary to approximate the *torn urethral ends*. The indwelling catheter serves as a scaffolding or splint favoring prompt union of the severed ends of the urethra.

I have used on many occasions this same technic for the treatment of impassable strictures of the urethra resulting from old gonorrheal infections. In many instances these patients were first seen in extremis with periurethral abscesses and urinary extravasation with multiple fistulae. In these cases, the stricture is usually in the bulbomembranous urethra. The excess scar tissue is excised through the perineal incision, the continuity of the urethra is re-constituted with a Foley catheter without any attempt to suture the ends of the urethra together, and the results have been most gratifying. Morbidity and mortality have been reduced to the vanishing point with this simple course of action. Follow-up care is important. Sounds should be passed periodically until one is assured that the danger of further stricture formation is past.

Straddle injuries do not always rupture the urethra. In some instances the injury to the urethra is slight, and the patient is still able to void. The soreness soon departs and he develops a false sense of security until several months have passed. Then he begins to notice diminution in the size and force of his stream and eventually becomes unable to void at all. The realization is then brought home to him that he has developed a traumatic stricture as a result of straddle injury. The traumatic stricture thus formed is usually even more rigid and resistant to dilatation than the gonorrheal stricture.

In conclusion we see that there are three separate entities:

1. Rupture of the urethra.
2. Impassable gonorrheal stricture of the urethra.
3. Straddle injuries with either rupture of the urethra or delayed stricture formation.

The treatment consisting of re-establishment of the normal continuity of the urethra is the same for all three, as outlined above.

Injuries of the External Genitalia

Trauma to the penis and testicles of an industrial nature is relatively uncommon in spite of their exposed position. War wounds differ from injuries in civil life in that they are more often penetrating wounds due to bullets and shell fragments. A favorite diabolical instrument of the enemy was the mine which, when stepped on, often succeeded in blowing off the entire genitalia. In civilian life I have seen a few cases in which the integuments of the genitalia were avulsed, and in some cases partial or total emasculation accomplished. One instance a farmer, age 30, while leaning over his tractor engine, caught the front of his trousers in the fan. A remarkably clean job of emasculation was done except for one testicle which was left hanging free without any covering. The testicle was placed under the skin on the inner surface of his thigh. His urinary meatus is now in the perineum just in front of the anus.

Another young man, age 24, while using a rotary drill, had the handle catch in his trousers resulting in instant castration. On examination his scrotum was found to be intact except for a transverse

slit which looked as if it had been done with a scalpel. The stumps of the spermatic cords did not bleed because of the rotary effect of the drill. All we had to do was to suture the scrotum and put the young man on testosterone treatment to control his hot flashes.

The question of traumatic epididymitis and epididymo-orchitis has given rise to considerable acrimonious debate in the field of industrial medicine. It is probable that the insurance carrier has often been made to pay compensation for instances of alleged injury which were in reality cases of acute nonspecific epididymitis unrelated to injury, or at least to any direct trauma to the organ.

In conclusion, I hope that this discursive account of injuries to the urogenital organs may have been the source of a few practical gleanings for the audience for whom it was intended.



Virchow on Soups and Broths

The distinguished German professor and politician has been accused of being the chief opponent of soup. He says that this is not true, for he had merely said that meat broths are neither nutritious nor "substantial." That if all the meat which one uses should be boiled and soup made of it, the meat would become for the greater part indigestible, and the soup would not be a substitute for it. Ordinary meat broth or bouillon in its pure form can only be recognized as a condiment. By the addition of eggs, flour, fat and other things, it may acquire a certain nourishing and heating value. * * * Taken warm, it is of nearly the same value as coffee or tea, but is inferior to wine, schnapps, or beer; it only stimulates the nerves. It has one advantage over every other condiment, namely, it contains no poisonous substance, it is incomparably milder, hence much better adapted to feeble persons; and finally, it can be conveniently combined with substances that are actually nutritious, and imparts to them an agreeable and "substantial" taste.—**Scientific American**, April 8, 1882 **New England Medical Monthly.**

New Orleans M. & S. J. 10:295 (Oct.) 1882.

Laboratory Diagnosis of Diabetes Mellitus*

• Laboratory diagnosis of diabetes is made more inclusive by determination of postprandial blood sugars.

ALBERT L. McQUOWN, M. D.†
Baton Rouge

CARBOHYDRATE is the chief metabolite of the body process. Regular ingestion is necessary as the body stores are limited in a 70 kilogram person to 300 gms. or about one half a day's energy requirements. If this is not maintained, then proteins and fats are metabolized to supply this energy.

Chemical Processes

Polysaccharides and disaccharides are hydrolyzed in the gastrointestinal tract to monosaccharides and are apparently absorbed by either diffusion or phosphorylation. Absorption rate varies with each saccharide and is influenced by other food in the tract, physiological state of the intestinal mucosa, emptying time of the stomach and endocrine activity. The latter is the activity of the thyroid and adrenal cortex and is not influenced by insulin activity.

Glucose, a hexose, is the only carbohydrate found in the blood of a normal fasting person. It is stored as glycogen, a polymer. Glycogen is present only in the intracellular component and represents 70 per cent of the carbohydrate total. In contrast, glucose is found only in extracellular fluids.

As glucose enters the cell membrane it is phosphorylated and can be metabolized. The enzyme-catalyze reaction can convert glucose into glycogen, oxydize it to CO_2 and water with energy release, or convert it by two carbon fragment degradation into fat or amino acids.

Homeostatic Factors Involve All Tissues

A number of delicately balanced homeostatic factors maintain the blood glucose level to a narrow range. This level is constant throughout life and only infants born of either normal or diabetic mothers exhibit a transient hypoglycemia during the first twelve to thirty-six hours after birth. The homeostatic factors include, hepatic and renal uptake and release of glucose, peripheral tissue removal and hormonal influence while gastrointestinal absorption has only a temporary effect upon the level.

The liver and kidney are the only endogenous sources of blood sugar. The liver is the most important and can remove or contribute glucose to the blood or synthesize it from a number of amino acids and fatty acid fragments. The mechanism is not clear, but under certain circumstances the kidney can release glucose into the circulation.

Glucagon and Other Hormones Influenced by Sugar Levels

The blood sugar level serves as a stimulus to the liver in determining whether glycogenesis or glycogenolysis shall predominate. Hyperglycemia in the presence of normal amounts of insulin inhibits the hepatic output of glucose while accelerating its deposition. Both of these processes aid in restoring the blood glucose to normal. Hypoglycemia is associated with decreased hepatic gluconeogenesis and with increased glucose output. The thyroid, adrenal cortex and anterior pituitary gland influence blood sugar levels by hormonal effect on the liver. On the other hand, insulin seems to act on the extra-

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hepatic tissue. Glucagon is a hormone of the alpha cells of the pancreas and increases the blood glucose level by a glycogenolytic effect on liver glycogen. In emergencies, epinephrine can cause excessive hepatic glycogenolysis and hyperglycemia.

All peripheral tissues utilize glucose for energy purposes and of these only cardiac or skeletal muscle can store a significant amount as glycogen. There is a direct relationship between blood glucose concentration and utilization of carbohydrate by extrahepatic tissues. This holds true for both normal and diabetic patients; although the rate of utilization is lower in the diabetic group at a given glucose concentration. In contrast, when hypoglycemia is present, the rate of entry of glucose into muscle will vary with the cause of the decreased blood sugar. Insulin is the one hormone which has been shown to increase the extrahepatic uptake of glucose.

Abnormal blood sugar concentrations result from an imbalance between hepatic output of glucose, peripheral uptake of glucose, or disturbance in the endocrine regulatory influence upon these processes.

Hyperglycemia

Hyperglycemia may result from (1) an increase in hepatic production and release of glucose with normal removal rate by peripheral tissues, (2) a normal hepatic output of glucose with a subnormal rate of peripheral removal, or (3) a combination of these factors.

Diabetes mellitus is a syndrome characterized by persistent hyperglycemia and glycosuria. Mild diabetes may show normal fasting blood glucose levels. It may be necessary to determine a postprandial blood sugar level or do a glucose tolerance test in order to establish a diagnosis, especially since glycosuria may be absent. An overproduction of glucose by the liver is the primary abnormality in the syndrome. Glycosuria occurs when the renal tubular reabsorption capacity for glucose is exceeded. Diabetes mellitus syndrome may be caused by lesions in the islets of Langerhans or by disorders of other endocrine glands. Increased activity of the adrenal cortex, either primary or as a result of pituitary basophilism with increased ACTH production produces hyperglycemia by increasing hepatic glyconeogenesis greater than increase in peripheral uptake. Pituitary eosinophilism with increased growth hormone produces acromegaly and hyperglycemia. The mechanism is not definitely known but it may be by growth hormone influence on glyconeogenesis as well as an anti-insulin effect by glucagon production. Hyperthyroidism increases blood sugar levels if the peripheral utilization does not keep pace with the augmented hepatic output. Hyperglycemia may also be found in cases of pheochromocytoma.

Fasting Blood Sugar Levels are of Limited Use

In the diabetic syndrome, insulin restores hepatic glyconeogenesis to normal and facilitates peripheral utilization at normal blood sugar levels. Other conditions that produce increased blood sugar levels are (1) anoxia, (2) general anesthesia, (3) convulsive episodes of tetany, epilepsy, eclampsia and intracranial trauma, (4) chronic hepatic dysfunction and (5) gastrectomy with "dumping syndrome".

There is no need of estimating the level of serum glucose in the fasting state except where (1) hypoglycemia is suspected or (2) where it is desired to ascertain the effect and duration of insulin action in diabetes under therapy.

If one is tempted to screen out individuals with disorders of carbohydrate metabolism leading to hypoglycemia, then a fasting blood serum glucose determination will establish this fact, especially if combined with exercise. The disease processes associated with hyperglycemia can be more readily demonstrated when tested under the load of a meal. A postprandial blood glucose determination is then the method of choice and not a fasting blood level in screening for the presence of diabetes.

Accurate Blood Sugar Method is Available and Necessary

All practical methods require the preparation of a protein free filtrate for determining the glucose level. Most laboratories use tungstic acid for their precipitant but its use should be discontinued and either $Zn(OH)_2$ or $CuWO_4$ substituted. Tungstic acid will not precipitate the nonglucose substances in the erythrocytes and plasma like glutathione, uric acid and ergothioneine so the levels obtained and ordinarily used as normals (80 to 120 mg. per 100 ml.) include these non-glucose reducing substances. With the use of better precipitating agents true serum glucose is 70 to 105 mg. per 100 ml. and whole blood level is 60 to 90 mg. per 100 ml.

Postprandial Glucose Determination is Desirable

The ability of an individual to regulate his blood sugar can best be studied by determining blood glucose concentration after a meal or after oral or intravenous glucose. The postprandial blood glucose determination requires only one specimen one to two hours after a meal and only the degree of hyperglycemia is of importance. The glucose tolerance test can be given orally or intravenously. The blood glucose level is determined at specified time intervals before and after the oral or intravenous administration of a given amount of glucose. In the oral test, both the degree and duration of hyperglycemia are of clinical importance, whereas in the intravenous method, only the duration of hyperglycemia is significant.

Regardless of the method of administration the liver is the principal organ involved in the regulation of blood sugar and determines the response to the load of carbohydrate administered.

Oral Glucose Tolerance Test

Orally, glucose is absorbed at a rate which at first is greater than the capacity of the liver and peripheral tissues to remove it. The height of the blood sugar usually does not exceed 150 mg. per 100 ml. and this maximum is seen one-half to one hour after glucose ingestion. As a result of adjustments, the blood sugar is restored to normal after a time, although the intestinal absorption may be continuing at a maximum rate. After the initial increase in blood sugar the fall is delayed and does not return to control level for three or more hours. Hence both the height of the blood sugar response and its duration are of importance. Although it is assumed that there is a "normal" absorption of glucose from the intestine, even in normal individuals this rate is somewhat variable. Except in outspoken cases of gastrointestinal pathology, however, the postprandial serum glucose concentration will not be greatly affected by absorption rates since only the degree of hyperglycemia is important. On the other hand, the variability in absorption will affect the real glucose tolerance since both degree and duration of hyperglycemia are considered diagnostic. An abnormal degree of hyperglycemia may occur after gastrectomy since the stomach empties rapidly ("dumping syndrome"). This complication is avoided by using the intravenous test. In disease of the gastrointestinal tract associated with interference in absorption (sprue, celiac disease, enteritis and colitis) little if any hyperglycemia may be seen. Only a small increase in blood sugar value will be seen in untreated anterior pituitary and thyroid insufficiency. Patients with Addison's disease may show a normal type of curve if replacement therapy with electrolyte and water regulating hormones is adequate.

Intravenous Glucose Tolerance Test

In the intravenous test, glucose is introduced directly into the blood stream and all the variable factors of absorption are eliminated. After a fasting blood sugar is obtained ⅓ gm. of glucose per kg. of body weight as a 50 per cent glucose solution is injected intravenously over a three to five minute period (Soskin and Levine). Samples are taken at one-half, one, two and three hours. The concentration of blood glucose reaches a peak im-

mediately and then falls progressively. The maximum height has no significance but the duration of hyperglycemia is clinically important. The serum glucose normally will return to normal within one hour and may continue to fall for another hour to a level 5 to 15 mg. per 100 ml. below this. Following this dip, the level returns to approximately its normal level.

This "hypoglycemic" phase is produced by a lag in the liver's ability to change from its glycogenic activity to its role of glycogenolysis. Three types of abnormal responses after the ⅓ gm. per Kg. dosage is used can occur. These are: (1) A delay of three hours or more before the blood glucose returns to normal level. This is typical of the diabetic syndrome. The individual with mild diabetes may have a normal or only slightly elevated fasting blood sugar but will not be capable of restoring the blood sugar to the control value until three or more hours afterwards. This delay is caused by an absolute or relative insulin lack which affects hepatic homeostasis. (2) A return to normal levels between one and two hours after the injection. Some cases of liver dysfunction will produce this. A delay in the fall of the blood sugar is also found here but it differs from the response seen in diabetes in that the blood sugar returns to the original value between one and two hours. Here the abnormally functioning liver can not respond in the normal way to the stimulus of hyperglycemia and endocrine regulation. Thus, it is possible to differentiate patients with mild diabetes from those with liver dysfunction by means of the intravenous tolerance test. The oral test is incapable of making this differentiation. (3) An exaggerated hypoglycemic phase. As intravenous glucose subjects the regulatory mechanism to a marked stress resulting from the great hyperglycemia produced, the test tends to exaggerate the hypoglycemic phase as found in hyperinsulinism, glycogen storage disease and adrenal cortical and anterior pituitary insufficiency.

Standards of Interpretation

Almost all of the glucose tolerance tests are done to establish or eliminate the diagnosis of diabetes mellitus. The value of the postprandial blood glucose for this purpose has been firmly established. Sindoni originally demonstrated that blood drawn one to two hours after a meal is rarely, if ever, elevated in normal persons, in contradistinction to the high values found in diabetics. The serum glucose level is always lower than 120 mg. per 100 m. in normals and always higher than 150 mg. per 100 ml. in diabetics. Here is a procedure which is accomplished without fasting, requires only one blood sample, costs less and is completed in a relatively short time.

In this test as in the above tolerance tests, the patient should be placed on a high carbohydrate diet for at least three days prior to the test so that it may be carried out under optimum standard conditions. While the tolerance tests are done after twelve hours fasting, in the postprandial blood sugar test the patient eats a normal, hearty meal (breakfast, lunch or dinner) and the blood is drawn one to two hours afterwards. Excessive physical activity should be avoided during this period as activity accelerates the rate at which glucose enters muscle cells.

A postprandial serum glucose level of less than 140 mg. per 100 ml. is considered normal. One that exceeds 140 mg. per 100 ml. is abnormal. This test will pick up mild diabetics, i.e., with a moderate persistent elevation of the blood glucose concentration but no glycosuria. Since treatment of these patients will not include insulin but will be directed along lines of weight reduction and other general measures it is immaterial whether diabetes is diagnosed by means of the postprandial blood sugar or by the glucose tolerance test.

Postprandial Blood Sugar Should be Routine

Since many patients with diabetes may exhibit only minor symptoms and may not excrete sugar in the urine, it is wise

to screen all patients by performing a postprandial blood sugar as part of their work-up. It is also of value in following the course of mild diabetics at regular intervals.

The finding of reducing substances in the urine (mellituria) should be followed by a postprandial blood sugar. The finding of a normal postprandial blood sugar eliminates the diabetic syndrome as the cause. Then the possibility of the presence of renal glycosuria, fructosuria, pentosuria or lactosuria should be investigated.

Hereditary Factors

It is universally agreed that there is a large hereditary component in the causation of diabetes mellitus. Recent studies of Stinberg and Wilder suggest that diabetes mellitus is transmitted by a single autosomal recessive gene, d. Individuals who are genetically liable to develop the disease are dd, and those who are not genetically liable to develop it are Dd or DD. It is estimated that 5 per cent of the population of the United States belong to dd. However, because of the variable age of onset and the difficulty of making the diagnosis clinically, only about 1 per cent of the population is recognized as being diabetic. The probability of genetic susceptibility in any family when Dd mates with Dd is the expected 25% of offsprings will be dd. Dd mated with dd gives 50 per cen of offsprings dd and dd mated with dd gives 100% of the offsprings dd. On this assumption it is possible to calculate the probability of any one individual in a family being dd if one knows that certain other relatives in the same family have diabetes mellitus or may be dd .

Cortisone Glucose Tolerance Test

We are still left with the problem of determining which asymptomatic individuals are dd and when they are likely to show symptoms of diabetes mellitus. Fajans and Conn have made progress in this by devising a combined cortisone-glucose tolerance test. They found 19 per cent of 152 relatives of known diabetics showed an abnormality of the usual glucose tolerance test. However if 50 mg. of cortisone was administered eight hours before the test the incidence was 24 per cent. In contrast only 1 of 50 control subjects with no diabetes mellitus in the family demonstrated an abnormality with the usual glucose tolerance test and 1 of 37 control subjects demonstrated blood sugar changes by the cortisone-glucose tolerance test.

Woodyatt and Spetz have suggested that the onset of diabetes mellitus becomes earlier with each affected generation. Thus, if grandfather developed diabetes mellitus at the age of 50, the father may develop symptoms at 30 and the offspring at 10. This is not a consistent relationship between parent and child so the term anticipated should not be used.

Summary

In summary diabetes mellitus is probably transmitted by a simple autosomal recessive gene. Individuals who are homozygous for this gene dd are liable to develop diabetes mellitus but the age of onset is variable. The specific diagnosis is made by the clinical history and the laboratory determination of mellaturia and decreased tolerance to glucose. The best single test for this is the postprandial blood sugar determination.

References

Fajans, S. S., and Conn, J. W.: An approach to the prediction of diabetes by modification of the glucose tolerance test with cortisone, Diabetes 3:296, 1954.

Hsia, D. Y.: Inborn errors of metabolism. The Year Book Publishers, Chicago, Ill., 1959.

Steinberg, A. G., and Wilder, R. M.: An analysis of the phenomenon of "anticipation" in diabetes mellitus, Ann. Int. Med. 36:1285, 1952.

Miller, S. E.: Textbook of Clinical Pathology, Williams and Wilkins Co., Baltimore, Md., Sixth edition, 1960.

Woodyatt, R. T., and Spetz, M.: Anticipation in the inheritance of diabetes, J.A.M.A., 120:602, 1942.

Management of Unstable Diabetes*

• Difficulty in the management of diabetes may be due to the patient's outlook on the disease, as well as to faulty management or causes inherent in the disease.

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THE physician's purpose in treatment of diabetes is to minimize its influence on the patient's life. In most cases modern methods of control are entirely adequate to permit diabetics to live lives scarcely distinguishable from those of non-diabetics. In the minority are patients whose diabetes behaves so erratically that it makes anything approaching normal living impossible. This minority is said to have "labile," "brittle," "unstable," or "unmanageable" diabetes. Insulin reactions are often their great daily fear.

When diabetes appears to be unmanageable first thought should be given to finding the reason. Frequently, in my experience, no satisfactory explanation will be found, and patient and physician will have to embark on an often frustrating course of manipulation of diet, hypoglycemic agents, and exercise. Sometimes, however, the physician will be lucky enough to establish the cause and, luckier still, to remove it.

Stable Diabetes Masquerading as Unstable Diabetes

Instability of diabetes may be due to nothing more than the patient's ignorance of how to care for his diabetes at home. This becomes immediately apparent in the hospital where standard management may reveal nothing unusual about the diabetes or response to treatment. In such cases, thorough education of the patient by many means now available usually will tame the disease.

Poor self-management of stable diabetes is not always due to ignorance, however. Conditions at home or work may make it extremely difficult for the patient to follow a regular daily routine. This is true, for example, of patients whose energy output in physical work must vary widely and of those on rotating workshifts. Sometimes a conference with or a letter to the employer will be helpful.

There may also be psychological barriers to achievement of satisfactory diabetic control. These vary in magnitude from poor self discipline and an easily understandable rebelliousness and partial denial of existence of diabetes to use of of the disease for suicide. In such cases it is really not the diabetes but the patient who is unstable, but this may not be immediately evident to the physician. Peck and Peck [1] and Stearns [2] described 5 cases of patients, all adolescents or young adults who attempted to use their diabetes for self-destruction. One succeeded. Another, during a period of seven years was in coma at least forty-two times; adjustment of her environment and superficial psychotherapy stopped this behavior.

Instability of Diabetes Due to Excessive Doses of Insulin

For years it has been known that insulin reactions make diabetes behave erratically for several hours or days. This appears to be due primarily to the stimulating effect of hypoglycemia on release of corticoids and possibly other insulin antagonists. Somogyi [3] appeared to believe that this phenomenon accounts for most cases of diabetic instability. He went so far as to say that every one of his patients who for years had received 30 to

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150 units of insulin daily was restored to "a status of mild diabetes that can be managed with small doses of insulin or, not infrequently, without insulin".[3] An illustrative case (Figure 1) is that of a

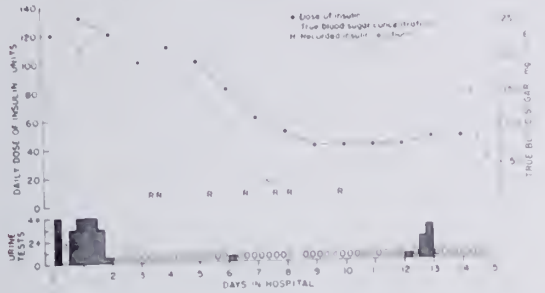


Figure 1.—Improvement of diabetic control in a 22 year old woman during hospitalization and reduction in insulin dosage.

woman, 22 years of age, who had had diabetes for ten years. For three years before admission to Ochsner Foundation Hospital the diabetes had been poorly controlled. She ate erratically. In spite of injection of 60 units of protamine zinc insulin twice daily results of urinalyses, which she performed three times a day, were rarely negative for sugar and frequently positive for acetone. She had become emaciated, and diabetic neuropathy and nephropathy had developed. In the hospital the dosage of insulin was rapidly reduced and one daily dose of 44 units of NPH insulin satisfactorily controlled the disease. After discharge from the hospital, the daily dosage was reduced another 4 units.

In this case improvement in diabetic control by reduction in insulin dosage, combined with dietary regulation was exceptionally easy to accomplish. More commonly, Somogyi emphasized, great ingenuity in manipulation of diet and insulin is necessary to break the disastrous cycle responsible for "exacerbation of diabetes by excess insulin action".[3]

Instability of Diabetes Due to Concurrent Disease

Reduction in insulin requirement, often of substantial and progressive degree, combined with increasing liability to insulin reactions should make one think of Addison's disease or anterior pituitary insufficiency. Increasing severity of diabetes often accompanies chronic infections or thyrotoxicosis. Diabetes due to pheochromocytoma is notably labile.

An unusual case of diabetic instability associated with concurrent disease is exemplified by a man, 50 years of age, admitted to Ochsner Foundation Hospital on March 5, 1961, with a history of diabetes for the past ten years. Since 1955, he had had symptoms of diabetic neuropathy, chief of these being impotence and orthostatic hypotension. Until March 1960, the diabetes had been easily controlled by a qualitative diabetic diet and injection of 20 units of protamine zinc insulin daily. Then, the diabetes started behaving erratically. He began to have cutaneous infections. Three days before admission epigastric pain developed. Radiologic examination of the upper gastrointestinal tract showed severe gastric retention and at least two peptic ulcers, one of which appeared to penetrate the pancreas. The radiologic diagnoses were confirmed at operation.

One interpretation of this sequence of events is that the instability of the diabetes, beginning one year before admission, was due to intermittent pyloric obstruction, and that the gastrointestinal lesions were asymptomatic, or nearly so, because of coexistence of the diabetic neuropathy affecting principally the autonomic nervous system. Admittedly, the cutaneous infections, as well as the secondary pancreatitis, may have been contributing factors.

Insulin Resistance

Insulin resistance is said to be present when the daily insulin requirement is persistently 200 units or more. The condition as so defined is rare. I can remember having seen only one case. In 1948, Smelo [4] collected only 54 cases from the English medical literature. Insulin resistance has many causes and usually is self-limited in time. Its treatment is not completely satisfactory. According to Berson and Yalow,[5] "approximately half of the pa-

tients will show a significant reduction in insulin requirements following treatment with adrenal cortical steroids." Treatment of some patients with adrenocortical steroids, however, increases insulin requirements.

Instability of Diabetes Due to Unknown Causes

Patients in whom the cause of the disease's instability cannot be found have usually had diabetes since childhood or adolescence, and the disease may have been easily controlled for some years before becoming unstable. Unfortunately, there is no magic formula which will insure satisfactory therapeutic results. What is needed is unrelenting application of basic principles of diabetic management, as well as, at times, a few tricks.

A. **Education of the Patient.** To the limit of his ability, the patient should master the whole subject of diabetes. Knowledge of a few simple facts and technics permits the patient with stable diabetes to live at peace with his disease, but this may not be true of a patient with unstable diabetes. The physician should emphasize the importance of proper technic of administration of insulin, as weil as establishment of a regular daily routine with respect to time of administration of insulin, food consumption, urinalyses for sugar, and exercise. The patient should be encouraged to live a life of emotional moderation, and he should be warned of the dangers of insulin reactions. He should at all times carry some form of sugar with him and be ready to use it at the first hint of an insulin reaction. Unusual exertion should be preceded by a feeding. In my opinion, he should be taught to look on moderate glycosuria with an unconcern that would not be permissible in a stable diabetic.

B. **Diet.** Obviously, the diet should be carefully measured. Eating mid-morning, mid-afternoon, and bedtime snacks may be invaluable in preventing insulin reactions and stabilizing the disease.

C. **Insulin.** It seems to be impossible to prepare a satisfactory, brief coherent summary of use of insulin in treatment of unstable diabetes. The following observations are offered in place of one.

1. It is wrong to rely on the belief that any insulin preparation "A" has a duration of action "X" and is maximally active as measured by depression of blood sugar concentration at time "Y" after injection. In the first place, the duration of action of any type of insulin depends partly on size of dose. This is exemplified by the case of the patient reported by Vogl and Youngwirth [6] who was still having insulin reactions six days after injection of 2000 units of protamine zinc insulin, which he had taken with suicidal intent. Secondly, patients vary amazingly among themselves in their response to the same dose of the same preparation of insulin. Hallas-Moller [7] observed that injection of the same depo-insulin into 3 fed patients with diabetes of almost the same degree was followed in six hours by a fall in the blood sugar concentration of about 200 mg. per 100 ml. in one, a rise of about the same degree in another, and little change in the blood sugar in the third.

2. A single daily injection of a single kind of insulin will rarely control unstable diabetes. Single injections of a mixture of insulins (for example, Lente and semi-Lente insulin) sometimes will. More frequently, two injections daily are needed; for example, two-thirds of the total daily dose of insulin given before breakfast and one-third before supper or at bedtime.

3. Protamine zinc insulin, alone or in mixtures, probably should not be used in the treatment of unstable diabetes.

4. Changes in dosage or kind of insulin should be made only rarely at daily intervals.

D. **Oral Hypoglycemic Agents.** Several oral hypoglycemic agents have been used to supplement insulin in treatment of unstable diabetes. Of these, phenethylbiguanide (phenformin, DBI®) has proved most useful. However, the frequency with which it produces gastrointestinal symptoms and lassitude limits its usefulness and even if tolerated by the patient is is

not always effective. Krall and associates[8] report that "the activity appears to start several hours after ingestion and in its present form usually disappears in six to eight hours." This observation can be used as a guide to spacing doses of the compound. Krall's patients who were taking both insulin and phenformin received a daily average of 152 mg. of phenformin and 10 units of insulin. In this group, phenformin had reduced insulin requirement by 64 per cent.

Summary

The following program of management of the patient with unstable diabetes has been suggested: (1) hospitalization; (2) institution of a good standard diabetic regimen; (3) careful search for co-existent disease and treatment of any found; (4) if the diabetes remains unstable: (a) intensive, thorough education of the patient in the technic of injection of insulin, in the pathologic physiology of diabetes, the action of insulin, recognition of insulin reactions, and the diabetic diet; (b) painstaking manipulation by the physician of insulin therapy, diet, and occasionally oral hypoglycemic agents or corticoids, and (5) close supervision of the patient after discharge from the hospital. Moderate glycosuria is, in my opinion, preferable to frequent insulin reactions. In spite of all the patient and physician can do, however, the results of treatment may not be ideal in all cases.

References

1. Peck, F. B. and Peck, F. B., Jr.: Tautologous diabetic coma behavior syndrome. Diabetes 5:44 (Jan.-Feb.) 1956.

2. Stearns, S.: Self-destructive behavior in young patients with diabetes mellitus. Diabetes 8:379 (Sept.-Oct.) 1959.

3. Somogyi, M.: Exacerbation of diabetes by excess vascular action. Diabetes 9:328 (July - Aug.) 1960.

4. Smelo, L. S.: Insulin resistance. Proc. Am. Diabetes A. 8:77, 1948.

5. Berson, S. A. and Yalow, R. S.: Insulin inhibitors and insulin resistance. New York State J. Med. 60:3658 (Nov. 15) 1960.

6. Vogl, A. and Youngwirth, S. H.: The effects of a single dose of 2000 units of protamine zinc insulin taken by a diabetic patient with suicidal intent. New England J. Med. 241:606 (Oct. 20) 1949.

7. Hallas Moller, K.: Lente insulins. Diabetes 5:7 (Jan. Feb.) 1956.

8. Krall, L. P., White, P. and Bradley, R. F.: Clinical use of the biguanides and their role in stabilizing juvenile type diabetes. Diabetes 7:468 (Nov. - Dec.) 1958.

Who Introduced Nitroglycerine

The following clipping from the April number of the Philadelphia Medical News is of interest in the history of this new remedial agent. It is a point of importance that due credit may be given for what appears to be a valuable discovery, and we gladly republish the following claim made by Dr. Allan M'Lane Hamilton, of New York City:

In an article in the current number of the News it is stated that nitroglycerine is a new remedy. I desire to call attention to the fact that the drug was used many years ago, and articles detailing its physiological effects were written as far back as 1855.

I wish now to claim priority in suggesting its use in the treatment of various nervous diseases, including epilepsy and migraine, in appreciable doses. Dr. A. J. Minor and I conducted a series of experiments in 1875, which were subsequently published. (Am. Pathological J. Feb. 1876)

New Orleans M. & S. J. 10:304 (Oct.) 1882.

Determining the Cause of Death

• The steps by which a diagnosis is established are given, and some statistics on coroner's cases in New Orleans. The necessity of an autopsy is shown.

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FOR each human being who dies there must be a legally documented cause of death. Each year there are approximately one hundred and five million deaths in the United States. Of this number about three hundred thousand qualify under local laws as Coroner's or Medical Examiner's cases. The ratio of medico-legal cases to those not requiring investigation varies widely with local problems. New York City has a yearly average of 76,513 deaths, of which 15,699 require investigation for a percentage of 20.5 per cent. New Orleans during the past nine years has shown a yearly average of 8055 deaths of which an average 3,969 are investigated (a percentage of 49.2 per cent). The death average is comparable on a per capita basis.

It is obvious that the total number of Coroner's Cases is augmented by the Charity Hospital facilities in this area. Last year 25.4 per cent of Coroner's Cases in Orleans Parish represented out of Parish cases reported from Charity Hospital. Of the total cases investigated, the number of cases autopsied has increased from 27.2 per cent in 1951, to 52.72 per cent in 1959. In cases not requiring autopsies the causes of death were established on the basis of hospital records or the medical opinions of attending physicians.

The responsibility for determining that the processes of life have ceased belongs to the physician, and when he is in attendance at the death scene it is simple to set the time and manner of death. The cause may or may not be apparent. Establishing the exact time, manner and cause of death is sometimes a more difficult procedure than is credited, especially by lay opinion.

Signs of Death

The earliest reliable sign of death is the cessation of heart and respiratory movements. In extreme shock, heart and lung sounds may be so feeble as to be barely audible so that careful examination must be made to avoid error. The stethoscope and a fairly good ear are rarely wrong in this regard.

Once metabolism stops, heat production no longer continues and body heat begins to be lost. The rate at which this takes place will depend on a variety of factors, which include environmental temperature, body temperature at the time of death, amount of subcutaneous fat, amount of clothing and exposure to the elements. Sunlight will warm the markedly rigid body as well as the putrefied body recovered from waters several days after death has occurred.

When there is no circulation of blood, stagnation takes place and the blood gravitates to the dependent parts of the body. Post mortem lividity is an indication of the position of the body, and is evidenced by a purplish discoloration of those dependent parts. If the body is moved after lividity is complete, the site of discoloration will not change. If the change in position is made after the process has started but is incomplete, coloration will be noted in more than one area. This process begins within one hour after death.

* Presented at the Eightieth Annual Meeting of the Louisiana State Medical Society, May 4, 1960, in Baton Rouge.

Rigor mortis will usually begin in about the second hour after death and is usually complete in about twelve hours. Beginning with stiffness of the jaw, the process continues caudad in the body until it involves the lower extremities. During the following twelve hours the condition disappears with the same sequence with which it developed. Although rigor is often used as a criterion for setting the time of death, it is subject to great variation. Physical activity, convulsive seizures, febrile states, atmospheric heat and emaciation will accelerate the onset and process of rigor. Cold and heavy body musculature will slow the development as well as the dissolution of rigor. Heat will accelerate the disappearance of rigor. In a cold atmosphere rigidity will persist for days. The bulk of muscle as influenced by the speed of chemical reaction after death determines the rate and progression of rigor.

Putrefaction of tissues occurs once biophysiologico - chemical activity stops. These disintegrative changes are aided by the destructive invasion of bacteria. Depending again upon temperature and atmospheric factors there follows usually within thirty-six hours gas formation, discoloration of tissues, staining of superficial veins and separation of the epidermis. The process continues so that within forty-eight hours there is obliteration of features and gaseous distention of tissues. This may proceed to rupture of soft tissue areas. Mummification seen in hot dry climates is almost never seen in this locality.

The examination of decomposed bodies is not as fruitless as it may seem. Trauma can almost always be ruled out. Poisoning with heavy metals can be determined from scant ash remains and bone surveys. Fractures are easily diagnosed and calcific cardiovascular lesions are frequently identifiable.

Manner of Death

The manner of death is determined on the basis of a careful history as supplemented by information obtained from relatives or other witnesses in attendance at the time of death, and augmented by the personal knowledge of the physician in attendance. The varied clinical pictures are essentially well known and too numerous for the scope of this discussion. The chest pain and shock-like picture of the cardiac; the coma, hemiplegia and other neurological manifestations of the cerebrovascular accident; the hemorrhage of pulmonary and gastrointestinal lesions are but an extremely small number of the grossly apparent signs which are identifiable with terminal episodes of acute or chronic disease. Careful attention to the details of these terminal episodes plus a careful history will aid tremendously in establishing the cause of death.

The presence of trauma must always be considered even under the most obvious medical evidence accounting for death. While the cause of death is frequently known, there is always room for amplification of the diagnosis or the revelation of an obscured clinical entity. In the presence of any doubt or the least dissatisfaction regarding the cause of death it becomes imperative that a complete autopsy be performed. Circumvention of this obligation will only permit the development of doubts in the mind of relatives. It has been the experience of our office that even the most bitterly opposed family and friends of the deceased will yield to the logic of the exact diagnostic information afforded by the autopsy rather than the appeal to their sense of obligation to contribute something to science. This attitude is reflected in the fact that during recent years it is not too uncommon for relatives to initiate the request that an autopsy be performed in the presence of the sudden or unexplained death.

The following tables illustrate the number of cases investigated during the past electoral year for the Orleans Parish Coroner's Office. The distribution is based on the manner of death. The fact that the medical cases do not exactly reflect standard statistics is due to the selective nature of cases which qualify as Coroner's Cases.

TABLE 1
MANNER OF DEATH

Manner		Total	Per Cent of Total
Natural Causes	3,288		
Abortions	2	3,290	76.55
Unclassified		6	.14
Motor Vehicle Accidents		127	2.95
Other Transport Accidents		10	.23
Other Fatal Accidents		272	6.33
Suicides		51	1.19
Homicides		80	1.86
Stillbirths		449	10.45
Under Investigation		13	.30
TOTALS		4,298	100.00

Case Reports

The fact that things are not always what they seem is reflected by the following cases taken at random from the files of the Coroner's Office of the Parish of Orleans.

Case No. 1—F.S., WM 70

This retired old gentleman had been a known diabetic for about fourteen years. He was under treatment for his diabetes and heart disease for many years, by his personal physician. One day he visited his doctor complaining that he noticed some weakness of his right arm and leg since about four days previously. Three hours later he fell in his room at a local apartment hotel and lost consciousness. He was hospitalized and x-rays revealed that he had suffered a linear fracture of the parietal portion of the skull. Neurosurgical consultation was obtained and the consensus of opinion was that the patient had suffered a cerebrovascular accident, and the fall was secondary to his stroke. On the second hospital day he developed Cheyne-Stokes respirations and right-sided convulsions. He ran a febrile course, developed rales in both bases and expired on the ninth hospital day.

An autopsy was performed at the city morgue and the findings revealed a contusion about the right ear. On reflection of the scalp there was considerable hemorrhage under the scalp in the right parieto-occipital region. There was a fracture of the calvarium on the right side extending into the vertex from a comminuted fracture in the temporo-parietal region on the right. When the calvarium was removed there was no extradural blood, but there was 100 cc. of subdural blood on the left side. The brain was compressed and there was flattening of the gyri and obliteration of the sulci. The left temporal lobe was hemorrhagic and soft, and showed hemorrhage within its substance. On cut section, a focus of contusion was seen on the orbital surface of the right frontal lobe. The entire temporal lobe was destroyed by hemorrhage and contusion. There were small petechial hemorrhages in the pons.

Positive findings in the abdominal cavity revealed that the upper pole of the left kidney was replaced by a lobulated mass of tumor tissue which on cut section showed extension into the renal veins.

The lungs showed several small areas of consolidation, which were compatible with pneumonitis. There was one round, circular tumor mass, which represented metastasis from the renal tumor.

Autopsy proved that this man died of this accidental fall, which produced the skull fracture and subdural hematoma and brain injury. The finding of the renal neoplasm was an interesting anatomical finding.

Case No. 2.—E.J., CM 46

While drinking white port wine at a local tavern this negro male was observed to suddenly fall off a bar stool striking his head on the floor. Upon arrival of an ambulance he was pronounced dead and conveyed to the city morgue for an autopsy. There was only minor evidence of a contusion to the forehead. There was no

TABLE 2
AUTOPSIES PERFORMED AND MANNER OF DEATH

		Total Cases	Cases Not Autopsied	Autopsies Performed			Per Cent of Cases Autopsied
				Coroner's Office	Hospitals	Total	
Natural Causes	3,288						
Abortions	2	3,290	1,812	371	1,107	1,478	44.92
Unclassified		6		5	1	6	100.00
Motor Vehicle Accidents		127	1	124	2	126	99.21
Other Transport Accidents		10		9	1	10	100.00
Other Fatal Accidents		272	85	111	76	187	68.75
Suicides		51	1	50		50	98.06
Homicides		80		80		80	100.00
Stillbirths		449	133	4	312	316	70.38
Under Investigation		13		12	1	13	100.00
TOTALS		4,298	2,032	766	1,500	2,266	52.72

previous medical history. The receipt of an anonymous telephone call relating that the man was struck and knocked off the bar stool by a drinking companion raised further suspicion that death might be traumatic and related to head injury. Police investigation failed to confirm the story of a fight.

An autopsy was performed and the cause of death was established as being due to severe arteriosclerotic heart disease. The left coronary artery showed luminal narrowing of from 40 to 85 per cent. The right coronary artery demonstrated up to 90 per cent narrowing of the lumen in its posterior portion. The myocardium was markedly hypertrophied. The lungs revealed evidence of severe tracheobronchitis. There was no evidence of cranial or intracranial trauma. Death was determined to be due to natural causes.

Case No. 3—M.O., WF 47

This lady has been treated at a local hospital clinic for the past eight years for severe bronchial asthma. On the day of death she developed difficulty in breathing and employed her usual bronchodilator drugs without seeking medical care at the clinic. Later that afternoon she suddenly became more markedly dyspneic and died.

An autopsy was thought advisable because of the age of the patient and her lack of recent medical care. Post mortem examination revealed evidence of bilateral bronchopneumonia and the presence of moderately large pulmonary embolus.

Case No. 4.—S.O., WF 11 Months

This child was dead on arrival at a local hospital. There was a history of the child having been dropped by an older child about two months previously and having suffered a fracture of the right leg. The cast had been removed about two weeks prior to death. A few hours before being brought to the hospital the child reportedly fell from her crib and shortly afterward developed convulsive seizures.

Autopsy revealed a moderate degree of edema and subscapular hemorrhage. Upon removing the calvarium about 40 cc. of clotted and liquid blood was found in the subdural space covering the right cerebral hemisphere. There were no definite lesions of the brain and there was no demonstrable fracture.

Further investigation revealed evidence of cruel and abusive physical treatment by a common-law husband and the case was determined to be homicide.

Intellectual honesty has already been given as a reason for the need for autopsy in medical or so called "natural causes" deaths. The area of suspicion in homicides and suicides is frequently quite obvious. On rare occasions criminal death may prove elusive because of lack of sufficient inspection of the body or attention to details of the manner of death which do not add up to a completely satisfactory answer. Criteria used by our office which arouse suspicion are varied. Autopsies are performed routinely on all cases suspected of homicide, suicide, abortion, traffic fatalities, and industrial accidents. All cases of sudden and unexplained deaths including infants are examined routinely. Other criteria used in determining the need for autopsy include the age of the deceased, unsatisfactory clinical evidence even in the face of a medical history, the interest or suspicion of the attending physician or the request of the immediate family. The locale of death is sometimes a factor since it is well known that some neighborhoods have a higher incidence of cases requiring investigation.

An important consideration in modern times for the need of the medico-legal autopsy is the increasing number of claims arising from deaths involving personal liability and workman's compensation. Nothing will more effectively settle these claims to the best interest of the claimant and the insurance carrier than a documented autopsy protocol. The factor of double indemnity in so many life insurance policies also demands autopsy in many cases. Death in the elderly driver who dies in an automobile accident can frequently pose a problem in deciding whether the exodus was due to pre-existing cardiovascular or cerebrovascular disease, or whether it was due to trauma.

Summary

Criteria for determining the time and manner of death have been reviewed. Experience in the Coroner's Office for the Parish of Orleans shows that in a significant number of cases the presumptive diagnosis is not confirmed by the autopsy findings. Medico-legal demands of litigation procedures as well as intellectual curiosity make the need for the performance of more autopsies mandatory.

References

1. Camps, Francis E.: Establishment of the Time of Death, Journal Forensic Sci., Vol. 4, No. 1 (January) 1959.

2. Chetta, Nicholas, and Sanchez, Rafael C.: The Coroner System in a Metropolitan Area, 1955 Proceedings of the National Assn. of Coroners.

3. Gonzales, Thomas Arthur: Legal Medicine, Pathology & Toxicology, Appleton-Century Co. 1954.

4. Gradwohl, Rutherford B. Hayes: Legal Medicine. C. V. Mosby, St. Louis, 1954.

5. 1959 Annual Report Coroner's Office, Parish of Orleans.

Lemons, the Elixir of Life

Dr. William Schmöle, Professor of Pathology in Bonn, (Medical Record) writes a treatise on "A Scientific Method of Prolonging and Making Comfortable Human Life." He claims that this long and eagerly sought for end may be secured by eating lemons. He bases his method upon the hypothesis that the condition known as old age is produced by a misproportion between the organic framework and inorganic constituents of the human body. In order to prevent this condition and preserve the elasticity of youth, it is only necessary to introduce some substance which will dissolve the excess of mineral matter and allow of its absorption and excretion. Such substances are the inorganic acids, and chief among these citric acid, the next in value being lactic acid. Citric acid is best taken in the form of lemon juice, and it is recommended that a person swallow the juice of from two to eight lemons daily, year in and year out! Such a practice also secures one against the attacks of rheumatism, which afflict old age. It also prevents the degeneration of the arteries and the calcification of the vascular system.

New Orleans M. & S. J. 10:307 (Oct.) 1882.

Emergency and Near Emergency Surgery in Infants With Congenital Heart Disease*

- The many lesions of congenital heart disease are described together with the life-saving measures offered by modern surgery.

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IN the following discussion of surgery for congenital heart disease, in emergency and near emergency situations, I will attempt as a pediatric cardiologist not to usurp the surgeons' mantle as to how such surgery is carried out. Instead I would like to indicate what conditions are amenable to surgical correction or palliation, and how one goes about the management of such cases from the onset of the emergency until the patient is submitted to the surgeon's knife.

I view the care of sick children with heart disease as team work by everyone concerned, from the doctor, who first sees the patient through the pediatric cardiologist, to the surgeon, who, we hope, finally does something to favorably influence an otherwise dismal picture. Like any team, this team also will function better if all members are equally familiar with the plays. It is not my purpose to make pediatric cardiologists of you, and accordingly, little will be said of the specific technical procedures used in the catheterization laboratory except to mention them by name.

TABLE 1
APPROACH TO EMERGENCIES IN CONGENITAL HEART DISEASE

1. Suspect heart disease
2. Identify the type of defect
3. Treat the immediate problem
4. Offer a general prognosis
   a. Possibility of surgery?
5. Seek competent assistance for further management
   a. Diagnosis: **Pediatric cardiologist**
   b. Interim care: **Pediatric cardiologist**
   c. Definitive: **Cardiac surgeon**

Emphasis will be placed, (1) on how you can suspect that some congenital heart lesion is causing the patient's difficulty, (2) more or less identify the type of the defect, (3) treat the immediate problem, (4) offer a general prognosis, especially regarding the possibility of surgery, (5) seek competent assistance for further management, from the cardiologist for diagnosis and interim care and from the surgeon for definitive treatment.

TABLE 2
EMERGENCIES AND NEAR EMERGENCIES ASSOCIATED WITH CONGENITAL HEART DISEASE

- Congestive heart failure
- Hypoxemia
- Respiratory obstruction

In general there are three classes of emergency or semi-emergency situations associated with congenital heart disease. As shown in the table, these are congestive heart failure, hypoxemia and respiratory obstruction.

TABLE 3
CONGESTIVE HEART FAILURE

I	Myocardial anoxia
II	Obstruction to blood flow
III	Left to right shunt
IV	High output failure

The greatest problem from the point of view of numbers is that of congestive heart failure. The patient may or may not respond to medical mangement. The response will determine further management. Any episode of congestive heart failure even with excellent response to

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digitalis alone should be considered at least a near emergency and a signal that the time has come for definitive diagnosis.

Our practice is to carry out specific cardiac diagnostic studies as soon after the patient's condition stabilizes as possible, the degree of urgency depending of course on the level of response to medical therapy. In general, the younger the child at the onset of failure, the sooner we would prefer to go ahead with cardiac catheterization and/or other indicated procedures. I feel that young infants should certainly be studied within one month of the initial episode. Heart failure at such tender age invariably indicates a severe lesion.

Not infrequently, after apparent good initial response these little patients will become increasingly more difficult to manage. They may go bad at varying rates, sometimes so rapidly that diagnostic studies are impossible. One may look on the intervening time as a period of grace. After diagnosis has been established and the feasibility of surgical correction or palliation considered, the patient is managed medically until the optimum time for such surgery. Should the patient's condition deteriorate so that true emergency surgery must be considered, it can be rationally approached, if a complete and proper diagnosis is in hand.

TABLE 4
CONGESTIVE HEART FAILURE

I Myocardial anoxia
- Anomalous left coronary artery
- Aortic stenosis

In anomalous origin of the left coronary artery, the left anterolateral wall of the heart is supplied by blood which is flowing into the pulmonary artery at a fairly rapid rate. Apparently the main cause of difficulty here is the low pressure in the vessel due to its connection with the pulmonary artery, and this rapid drain off results in improper oxygenation of the myocardial musculature along its course. Aortic stenosis is mentioned here for completeness since an anoxic problem does exist and is largely responsible for such things as the sudden death for which this lesion is notorious. It will be discussed more fully later.

TABLE 5
ANOMALOUS LEFT CORONARY ARTERY

Suspect:
- Painful episodes (especially in C.H.F.)
- Shock-like episodes (especially in C.H.F.)
- No other good explanation

Dx helpers:
- EKG—infarction pattern L.V.H. pattern
- X-ray—Left ventricular enlargement Generalized E.H.

Special studies:
- Often unnecessary
- Retrograde aortogram

Surgery:
Ligation of left coronary at its origin from m.p.a.

As indicated in the table the combination of painful episodes with a shock-like picture of clammy skin, pallor, or cyanosis following periods of increased activity, even such minor activities as feeding, is very suggestive. When combined with congestive heart failure, it is almost diagnostic.

Electrocardiogram and x-ray are confirmatory, the EKG showing a pattern of anterolateral myocardial ischemia (deep Q waves, elevated ST segments and inverted T waves) that should not be misinterpreted as left ventricular hypertrophy.

The x-ray shows a dilated left ventricle. If too much damage to myocardial muscle has not already occurred, ligation of the coronary artery at its point of origin from the pulmonary artery, may allow restoration to a fairly normal state. Several patients are now alive following this procedure but a long term follow-up is lacking.

TABLE 6
CONGESTIVE HEART FAILURE

II Obstruction to blood flow
A—Right sided
- Pulmonary artery coarctation
- Pulmonary stenosis
- Tricuspid stenosis or atresia

The right-sided obstructive lesions are typically associated with radiologically clear lung fields.

TABLE 7
ISOLATED PULMONARY STENOSIS

Suspect:
- Congestive heart failure
- Typical "diamond shaped" murmur

Dx helpers:
- EKG:
  —marked R.V.H.
  —R.A.H. ("P pulmonale")

Special studies:
- Right heart catheterization (if time permits)
- Cineangiocardiography (if time permits)

Surgery:
- Pulmonary valvulotomy
  —Brock
  —Open heart with pump oxygenator
  —Inflow occlusion and hypothermia

Isolated pulmonary stenosis is by far the most frequent of this group being most often valvular; but not infrequently infundibular stenosis also occurs, either in combination or alone. Congestive heart failure associated with the typical diamond shaped murmur and with electrocardiographic evidence of marked right ventricular hypertrophy is extremely suggestive. When the X-ray demonstrates radiologically clear lung fields, and or poststenotic pulmonary arterial dilatation, one may feel fairly certain.

As indicated in the table atrial hypertrophy is present, frequently with giant P waves which have come to be named "P pulmonale" because of this association. If the patient is not in extremis and time permits, right heart catheterization with cineangiocardiography is carried out. Surgery available for this lesion consists of opening the obstruction. In emergency situations in small infants, it is my feeling and has been the experience of the L. S. U. group that Brock's procedure is the safest and is usually satisfactory. Other procedures have been used and are probably preferable in older children and in patients not in extremis.

TABLE 8
TRICUSPID STENOSIS OR ATRESIA

Suspect:
- Congestive heart failure
- Little or no murmur
- Deep cyanosis

Dx helpers:
- EKG: Left axis deviation
- Left ventricular predominance
- X-ray: Bronchovascular markings decreased
  —cut-away right ventricle in L.O.A. projection

Special studies:
- Right heart catheterization
- Selective cineangiocardiography

Emergency: Peripheral angiogram

Surgery:
- Potts or Blalock
- Atrial septectomy
- Right heart by pass

Triscupid stenosis or atresia may or may not result in congestive heart failure when the patient is first seen. The combination of deep cyanosis, little or no murmur, electrocardiographic evidence of left axis deviation and left ventricular predominance with x-rays showing decreased vascular markings is practically diagnostic. On the left anterior oblique projection, x-ray wise, the right ventricle may appear to be cut away, evidence that it is hypoplastic. Right heart catheterization with selective cineangiocardiography will allow complete diagnosis.

In very sick patients or small extremely cyanotic infants where one is unwilling to do a complete procedure, peripheral cineangiocardiography may give enough information to allow surgical palliation. There is no conceivable way to correct this lesion, but if a large enough pulmonary artery exists, a shunt operation may be done, connecting the systemic and pulmonary circulations. Should congestive heart failure be present and the angiogram indicate a too small atrial septal opening, then combining a Blalock with a modified Blalock-Hanlon atrial septectomy may succeed where a shunt alone would not.

The left sided causes of obstructive failure are listed in Table 9, coarctation of the aorta, aortic stenosis, mitral stenosis, cor triatriatum, obstructive anomalous pulmonary venous return (which is ordinarily

TABLE 9
CONGESTIVE HEART FAILURE

II Obstruction to blood flow
B. Left sided
- Coarctation of aorta
- Aortic stenosis
- Mitral stenosis
- Cor triatriatum
- Pulmonary venous stenosis
- Obstructive anomalous pulmonary venous return
  —Transhepatic ("subdiaphragmatic")
  —Others

transhepatic, but obstruction may occur at other places).

Coarctation of the aorta is a situation in which the aorta is narrowed to such a degree as to cause obstruction. One ordinarily finds upper extremity hypertension

TABLE 10
COARCTATION OF THE AORTA

Suspect:
- Upper extremity hypertension
- Weak to absent femoral pulses
- Lower extremity hypotension
- Typical murmurs

Dx helpers:
EKG:
- Left ventricular hypertrophy
- Right ventricular hypertrophy in young infants

X-ray:
- Left ventricular enlargement
- "E" sign
- Notched ribs

Special studies:
- Double arterials
- Retrograde aortography
  Arterial catheterization

Surgery:
- Excision and reanastomosis

combined with weak to absent femoral pulses, and lower extremity hypotension. A more or less typical pansystolic murmur is heard best posteriorly along the left spinal border.

Spencer and others have shown that with lumen sizes of 2.5 mm. or smaller continuous murmurs can be heard. The electrocardiogram demonstrates left ventricular hypertrophy; however, in very small infants the electrocardiographic pattern may be more that of right ventricular hypertrophy. The x-ray demonstrates left ventricular enlargement and in older children the typical "E" configuration of the barium esophogram and notched ribs may be noted.

Special diagnostic studies such as double arterials, retrograde aortography, and arterial catheterization may be carried out. Surgery consists of excision and reanastomosis.

TABLE 11
AORTIC STENOSIS

Suspect:
- Typical murmur
- Typical thrill
- History of acyanotic syncopal attacks

Dx helpers
X-ray:
- Poststenotic dilatation
- Left ventricle enlarged

EKG:
Left ventricular hypertrophy
Left ventricular "strain"

Special studies:
- Left heart catheterization
- Cineangiocardiography
- Trans-septal catheterization

Surgery:
Valvulotomy

Obstruction at the aortic valve may present as acute congestive heart failure. The presence of congestive heart failure in a patient with a high right parasternal systolic murmur and a thrill that transmits into the neck presents very little problem in diagnosis; however, in small infants, the murmur is usually along the left parasternal border and this does present a problem. The combination of a systolic murmur that could be aortic with the history of acyanotic syncopal attacks is most suggestive.

The x-ray shows enlargement primarily of the left ventricle and may show some poststenotic dilatation of the aorta. EKG ordinarily shows left ventricular hypertrophy and moderate to severe degrees of strain as indicated by ST segment and T wave changes. Unfortunately the electrocardiogram is not infallible in this respect and a small number of patients have been described with severe aortic stenosis causing myocardial ischemia, whose electrocardiogram had not shown progressive increase in strain pattern. Because of this, any patient with possible aortic stenosis

should have a definite diagnosis established and be closely followed if aortic stenosis is the diagnosis.

This lesion can be definitely identified by several methods such as left heart catheterization with selective cineangiocardiography. The left heart may be entered ordinarily in a retrograde fashion through the arterial system from above or it may be entered from the right atrium by means of transeptal catheterization.

Surgery consists of valvulotomy and is ordinarily quite gratifying. A certain number of these patients however, especially those in failure in infancy suffer also from endocardial fibroelastosis and in these cases the outcome is not often favorable.

TABLE 12
PULMONARY VENOUS OBSTRUCTION
(Mitral Stenosis, cor triatriatum P.V. stenosis, obstructed anomalous P.V. return)

Suspect:
- Fairly normal 1st 6 mos.
- Acyanotic "weak spells"
- Heart failure with small heart

Dx helpers:
EKG: Right ventricular hypertrophy
X-ray: small heart
- Feathery pattern of P.V. engorgement

Special studies:
Right heart cath.
Selective cineangiocardiography

Surgery:
Complete Repair
- Heart-lung machine
- Deep hypothermia

The remaining left sided obstructive lesions may be classified under a single heading, roughly titled pulmonary venous obstruction. The syndrome varies considerably but has recently been described rather neatly in its typical form by Dr. Catherine Neill of Johns Hopkins.

These infants may be fairly normal for the first six months except for occasional acyanotic weak spells. Around six months of age, these spells increase in number and the patient may present with clinically typical heart failure. In my own experience this has occurred most often at two to three months of age. X-ray however may reveal a small to only slightly enlarged heart. Electrocardiogram demonstrates right ventricular hypertrophy. In patients with mitral obstruction there will be left atrial enlargement evident both radiologically and electrocardiographically. Cor triatriatum may give similar findings.

The pulmonary vascular pattern on x-ray has a typical feathery appearance of pulmonary venous engorgement. Selective cineangiocardiography carried out during right heart catheterization with the injection of radio opaque dye into the pulmonary artery will demonstrate the point of obstruction.

Insofar as surgery is concerned, complete repair is now possible with the heart lung machine. Deep hypothermia utilizing the heat exchanger may be used also depending upon the surgeon's discretion at the time of operation.

TABLE 13
CONGESTIVE HEART FAILURE

III Left to right shunts

Precardiac
- Anomalous P.V.

Cardiac
- Atrial septal defect
  —Ostium secundum
  —Ostium primum
- Ventricular septal defect
- Combinations of above
- L.V. → R.A. syndrome

Post cardiac
- Patent ductus arteriosus
- Ruptured sinus-valsalva aneurysm
- Aortico—pulmonic septal defect
- Coronary artery fistulae
  —Rt. ventricle
  —Rt. atrium
  —Pulmonary artery

The most frequent cause of congestive heart failure in congenital heart disease is what we term left to right shunts. In this situation because of some defect, blood passes from the higher pressured systemic circuit to the lower pressured right-sided circuit in varying amounts depending on the severity of the lesion.

This results in re-circulation of blood through the right-sided and pulmonary circuit. In its most severe form the syndrome is characterized by repeated pul-

monary infections, gradually increasing congestive heart failure, and eventually death unless some action is taken.

I have divided the abnormalities as shown in the table into precardiac, cardiac and postcardiac. The only true cyanotic patient in this group is the precardiac lesion of total anomalous pulmonary venous return. The others, atrial septal defect, combinations, the left ventricular to right atrial shunt, patent ductus, ruptured sinus of valsalva aneurysm, aortico-pulmonary septal defect, and coronary artery fistula all have a certain similarity. Any of these situations in severe heart failure, however, may appear cyanotic.

TABLE 14
VENTRICULAR SEPTAL DEFECT

Suspect:
- L→R shunt
- Pansystolic murmur, LPSB
  —may be absent in C.H.F.

Dx helpers:
  EKG: Left ventricular hypertrophy
    ? R.V.H., varying degrees
  X-ray:
    Left ventricular enlargement
    Left atrial enlargement—if so rules out atrial septal defect
    Increased bronchovascular markings

Special studies:
- Right heart catheterization
- Selective cineangiocardiography

Surgery:
  Banding P.A.
  Complete repair
    - Heart-lung machine

Because of the similarity, we will discuss first the most frequent and typical lesion of this group with a word as to those points suggestive of other lesions. As shown in the table this is a ventricular septal defect. Typically these patients have a pansystolic murmur along the lower left parasternal border which may be in young infants widely transmitted. In severe congestive heart failure there may be little or no murmur.

The x-ray will demonstrate left ventricular enlargement, possibly left atrial enlargement and always moderate to severe degrees of increased bronchovascular markings. Left atrial enlargement mitigates against atrial septal defect.

Electrocardiogram demonstrates left ventricular hypertrophy and varying degrees of right ventricular hypertrophy, depending on age and the degree of pulmonary hypertension. These patients, not infrequently present a history of having had repeated episodes of so called bronchitis or bronchopneumonia. Typical asthmatic wheezes may occasionally be heard. During the early stages, gross congestive heart failure may not be evident. However, as time passes, possibly with each succeeding pulmonary infection, the heart failure becomes more and more evident. When severe congestive heart failure is present, this is indeed an emergency.

After stabilization has been obtained, diagnosis may be established by right heart catheterization with selective cineangeocardiography. It is not usually possible to control these very sick infants with medical therapy alone and some attempt at reducing the load must be made. Some people feel that complete heart repair using the heart machine is feasible, however the widest experience indicates that it is best in these small infants, who usually range from four to eight months in age, to band the pulmonary artery. This procedure consists of placing a tape around the pulmonary artery and constricting it so that the blood flow to the lung is reduced. In effect what is done is to convert the patient into a tetralogy of Fallot. It is usually possible to adjust the size of the orifice so that a right to left shunt with resultant cyanosis does not occur, creating a so-called balanced tetralogy. This procedure has been used with considerable success at L.S.U., where the operation in its present form originated, and in other institutions throughout the country. As these patients become older they invariably become cyanotic and eventually require complete repair.

Atrial septal defects do not ordinarily present as emergencies, and when they do, they are usually of the ostium primum type. Differentiation from ventricular septal defect under these circumstances is ordinarily rather difficult on purely

TABLE 15
ATRIAL SEPTAL DEFECT

- Suspect:
  - L.→R shunt
  - Pulmonic murmur
- Dx helpers
  - EKG:
    - Primum: R.V.H., L.A.D.
    - Secundum: R.V.H., RBBB.
  - X-ray:
    - Increased bronchovascular markings
    - P.A. prominence
    - Right atrial prominence
- * "Atrials" in trouble in infancy & childhood most often are primum type
- Special studies:
  - Right heart catheterization
- Surgery:
  - Complete repair
    - Hypothermia
    - Heart-lung machine

clinical grounds. The occurrence of a typical electrocardiogram of right ventricular hypertrophy and left axis deviation may be very helpful. The differentiation may be easily established by means of right heart catheterization. These lesions are best completely repaired, but such is rarely done on an emergency basis.

TABLE 16
POST CARDIAC SHUNT
(P.D A., A.P.S.D., C.A.F., Rupt S.V.)

- Suspect:
  - L.→R. shunt
  - Bounding pulses
- * Sudden onset:
  - Ruptured sinus of valsalva
- Dx helpers:
  - EKG:
    - L.V.H. - Diastolic
    - R.V.H. - Less frequent
  - X-ray:
    - Enlargement—L.V. & ? L.A.
    - Prominent P.A. segment
    - Increased bronchovascular markings
- Special studies:
  - Retrograde aortography
  - Rt. & Lt. heart cath.
  - Selective cine.
- Surgery:
  - Complete repair
  - Ligation (C.A.F., P.D.A.)

Post cardiac shunt, presents similarly to the intracardiac shunt but has some particular peculiarities which will usually allow a clinical differentiation. The first of these is bounding pulses; second is the persistence of the murmur into diastole. The association of sudden onset of heart failure in a previously well individual with bounding pulses and a continuous murmur is more or less diagnostic of a ruptured sinus of valsalva. Surgery for these lesions consists of complete repair of the defects and ligation of the abnormal vessels.

TABLE 17
ANOMALOUS PULMONARY VENOUS RETURN
(Complete, with exception of obstructive types)

- Suspect:
  - Congestive heart failure
  - Cyanosis
  - L.→R. shunt
- Dx helpers:
  - E.K.G.:
    - Right ventricular hypertrophy
    - Right atrial enlargement
  - X-ray:
    - R.V. enlargement
    - R.A. enlargement
    - Widening of mediastinum ("snow-man")
    - Increased bronchovascular markings
- Special studies
  - Rt. heart catheterization + selective cineangiocardiography
  - —P.A. injection
- Surgery:
  - Complete repair
  - —Heart lung machine

Anomalous pulmonary venous return as stated before should be suspected when a cyanotic left or right shunt remains so even after full digitalization. If there is a pulmonary murmur, right ventricular and atrial enlargement or mediastinal widening one can be quite suspicious. The true "snow man" shadow is unusual in small infants. The lesions can be readily identified in the catheterization laboratory and fully corrected with modern surgical methodology.

The fourth group of causes for congestive heart failure in congenital heart disease, that of high output failure, has only one true member, transposition of the great vessels. In this condition the primary abnormality is that of abnormal conotruncal rotation such that the aorta originates from the right ventricle, whereas the pulmonary artery originates from the left ventricle. Obviously, some associated

TABLE 18
TRANSPOSITION OF GREAT VESSELS

- Suspect:
  - Intense cyanosis in infancy
  - C.H.F.
  - Few murmurs
- Dx helpers:
  - EKG:
    - R. & L.V.H.
    - Deep precardial "S"
  - X-ray:
    - Enlarged heart
    - Narrow waist
    - Widens in L.O.A.
    - Increased bronchovascular markings
- Special studies:
  - Rt. heart cath.
  - Selective cine.
  - Peripheral cine.
- Surgery:
  - Atrial septectomy
  - P.A. banding
  - Complete repair.
    - Deep hypothermia
    - Pump-oxygenator

opening to allow at least a partial mixing must be present in order for the infant to survive.

About three-fourths of these patients will have a ventricular septal defect. About half of them will have either pulmonic stenosis or pulmonary vascular obstruction so that diagnosis and treatment are further complicated. The patients of which I speak here are those with the pure syndrome in whom the only defect, other than transposition of the great vessels is a small atrial defect or only a patent foramen ovale. It is these patients, presenting ordinarily anywhere from birth to three months of age who represent the greatest emergency.

In the transposition group because the two circulations are more or less separate, deoxygenated blood is being recirculated throughout the systemic circulation. The body's normal protective mechanisms result in an expanded blood volume and increased cardiac output. This increase in output affects both sides of the heart and results in the appearance of increased bronchovascular markings, or increased pulmonary blood flow, whereas right and left heart output will not be so greatly different. The necessity to increase the cardiac output results in both right and left sided failure. The presentation of an infant with intense cyanosis, congestive heart failure and few murmurs should lead to an immediate suspicion of transposition.

The electrocardiogram may show left or right ventricular hypertrophy and frequently shows a deep S wave across the precordium.

The x-ray is very suggestive in that it shows an enlarged heart with a very narrow waist which widens in the left anterior oblique position. The bronchovascular markings are increased.

The diagnosis can be readily established and the associated lesions properly identified by right heart catheterization with selective cineangiocardiography. In critical situations a peripheral cineangiocardiogram may be sufficient to allow for emergency surgery.

A rational approach to surgery would seem to be a procedure which would allow for more complete mixing. In very sick infants, I believe the procedure of choice in most institutions should be an atrial septectomy by the modified Blalock-Hanlon method. When a ventricular septal defect is present it may be advisable to band the pulmonary artery. Recently deep hypothermia using the heat exchanger and the pump oxygenator, by lowering the patient's temperature to the vicinity of 15 to 16 degree centigrade, has allowed the removal at that temperature of all of the encumbering apparatus associated with the heart lung machine. This allows the surgeon to work in a dry field and has allowed complete correction of these lesions. By complete correction I mean complete functional correction. The great vessels are not transposed but the venous return is transposed, so that when the procedure is completed the right ventricle functions as the systemic ventricle and the left ventricle functions as the pulmonary ventricle.

The addition of this new technique to the surgeon's armamentarium promises to bring even more so called uncorrectable lesions into the realm of feasible surgery.

Summary

In summary, I would like to say that it is no longer possible to look at a sick child with congenital heart disease, as an unfortunate circumstance about which nothing can be done. It is now mandatory that any sick infant or child in whom the possibility of congenital heart disease exists, be given the benefit of proper diagnosis, so that proper surgical correction or palliation may be undertaken if possible—and it is usually possible.

Vaccination vs. Protective Inoculation

Pasteur having conducted a series of experiments with regard to a certain form of contagious disease in cattle, the medical journals almost universally speak of the operation as charbon-vaccination. It is time that this abuse of the term vaccination were corrected. What Lady Mary Wortley Montague introduced into England as a prophylactic measure against small-pox was inoculation with small-pox. It had its inconveniences; it was uncertain in its effects, spreading the disease, and occasioning deaths now and then; but still it was based on experience, and served its purpose. When vaccination came, however, inoculation ceased by common consent, and it is now generally interdicted by law. Whatever refinements Pasteur and his school introduced with regard to the cultivation of the contagium vivum, they still propagate the disease by using the morbid products of the identical affection. All that they claim is that by inducing a mild attack of the disease which the animal survives, it is shielded from subsequent attacks by the self-protective power of the malady itself. Now, vaccination in the human subject **never** causes small-pox. **Medical Times**, October 21.

New Orleans M. & S. J. 10:442 (Dec.) 1882.

Principles and Problems of Phalangeal Fracture Treatment*

• Return of function to a fractured finger is of great importance for it may affect the means of earning a livelihood in those who have suffered such an injury.

A. L. BROOKS, M. D.
New Orleans

TO understand the principles involved in the treatment of fractured phalanges, a thorough knowledge of the function of the upper extremity is needed. The phalanges are the terminal devices man utilizes to earn his living, and as one means of expressing himself. Thus, these functions are necessarily instinctive or learned, and are tempered by individual need and concern. Fractures of the phalanges are therefore important and may become serious fracture problems if they are not recognized initially and properly treated. The patient and physician should not adopt a fatalistic attitude, accepting poor end results as inevitable with phalangeal fractures, since good results can be obtained if the fundamental principles involved in treatment are understood and proper treatment is carried out.

Anatomic Structure

What is different about fractures in the phalanges? To begin with, the anatomy is peculiar in several ways. On the volar surface of the phalanx are tendons that are tightly enclosed in a sheath that does not allow impingement on the space without impairing function. Each tendon has separate but synergistic function and a difference in excursion.

An extremely complicated structure is the extensor mechanism. The long extensor enters the region of the proximal phalanx dorsally and is immediately anchored centrally by transverse fibers from the intrinsic muscles. Trailing distally, these fibers are transverse to oblique and give way to distinct lateral bands on either side of the proximal phalanx.

The lateral bands arise from the intrinsic muscles. They are loosely interlaced to the central tendon as far as the insertion at the base of the middle phalanx. The lateral bands at this joint are also anchored on the volar surface by rather strong fibers, which are attached to the flexor sheath. Distal to the proximal interphalangeal joint the flat bands gently converge dorsally to form a single, flat, tendinous structure that inserts at the base of the distal phalanx. It becomes apparent from a description of this structure that fractures of the phalanges require meticulous immediate treatment and after care.

Another facet of the anatomic structure of the finger to be considered is the insertion of tendons on the phalanges. The proximal phalanx has the interosseous insertion which flexes the proximal phalanx. The middle phalanx has the sublimis insertion proximally to give flexion to this phalanx. Distally, the profundis inserts at the proximal aspect of the distal phalanx to give distal phalangeal flexion. These insertions affect position of fracture fragments, as well as the extensor insertions at the proximal part of the middle phalanx dorsally and the proximal part of the distal phalanx dorsally, in combination with the effects of gravity.

Functional Position

What is the functional position and why so much concern? The functional position is the position held with the wrist at 25°

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From the Department of Orthopedics, Ochsner Clinic, New Orleans.

dorsiflexion and the metacarpophalangeals and proximal interphalangeals at 45° flexion. The metacarpophalangeal joint and collateral ligaments are taut when the former is flexed to 45°. The middle interphalangeal joint and collateral ligaments are to a lesser degree taut when flexed, but this is not the only important structure causing proximal interphalangeal joint tightness.

The second structure at the proximal interphalangeal joint is composed of the lateral bands that normally sublux volarward, pulled so by Kaplan's fibers when the joint is flexed. If the lateral bands are not allowed to sublux volarward, they coalesce and become an inherent part of the central slip. These important structures, the collateral ligaments and the lateral bands which must sublux with the proximal interphalangeal joint in flexion, are the major factors in permitting finger motion in flexion, as long as the extensor mechanism is not damaged. If the central slip of the extensor is damaged and sticks down proximal to the joint involved, this obviously precludes flexion of the joint distal to this. The biological rule which dictates that all movable soft tissues, if left relaxed, will tighten up, is the simple essence of the functional position. Also the finger flexors and extensor are at the proper fiber length to start flexion and extension most advantageously.

Methods of Fixation

The most serious mistake that can be made in managing a fractured phalanx is to try to employ one method of fixation for all fractures. If one considers the anatomy and the various types of fractures at each level, the best solution usually becomes apparent.

Stable fractures, that is, stable in an axial direction (Fig. 1), can usually be managed by splinting to include a normal finger that helps to control alignment and and rotation. Usually, immobilization of the wrist in the functional position helps to maintain the desirable position of the



Figure 1.—(a) Epiphyseal fracture dislocation. (b) Reduced and stable. Held with splint and tape.

phalanges, and also the splint remains much more stable.

Oblique fractures are best managed by open reduction and fixation with multiple







Figure 2.—(a) Compound fractures of phalanx with multiple extensor lacerations. Quite unstable. (b) Fracture reduced and transfixed with multiple Kirschner wires extensor tendons sutured. (c) Fractures healing six weeks after injury.

small wires, followed by splinting in a functional position (Fig. 2).

An alternate method for oblique fractures is skeletal traction in a functional position (Fig. 3), but constant care is needed to insure adequate and continued reduction until stability occurs. Figure 3b shows poor position of fracture.

The most difficult fracture to treat is the comminuted one that defies internal fixation and must be managed by skeletal traction with the finger splinted in a functional position (Fig. 4a & b). When skeletal traction is utilized, dexterity is needed to align fragments at the various levels, as loss of bony substance and muscle pull are continuous deforming factors. Immobilization of the wrist is believed to be indicated in most finger splints if the fractures are unstable.

Lastly, a word of caution should be sounded about malrotation and lateral deviation as a cause of embarrassing functional impairment, such as the crossing of the fingers when flexed.

Restoration of Function

It is important to know when attempts should be made to begin finger motion. Such criteria as radiologic evidence of healing of the fracture must be discarded as an indication for beginning motion. By early mobilization of inherently stable fractures without loss of substance, we must depend primarily on fibrous tissue healing of the degree reached by about three to four weeks, combined with what fracture healing has ensued. However, this usually is enough stability to start finger motion.

Fractures that are inherently unstable and are comminuted usually are beginning to coalesce at three to four weeks, so that one may at least begin to mobilize adjacent joints. Intermittent splinting must be continued to prevent further deformity and drift of the distal part. The more comminuted the fracture and the less anatomic apposition of the fragments, the more difficult it is to hold the fragments and restore function in the involved area and of the finger distal to the fracture.





Figure 3.—(a) Oblique, unstable fracture. Treatment with traction. (b) Volar angulation of distal fragment; realignment was indicated.

The healing mass is directly related to the fracture surface involved. The healing mass envelops all surrounding structures to give a fibrous fracture mass that is initially inert functionally and must follow well-known healing evolutionary processes. There is first the violent soft tissue reaction of swelling and hemorrhage, which gradually subsides. Coincidentally, the fractured ends are being

united by the process of fracture healing, so that by the end of three or weeks fibrous tissue is interspersed with osteoid and there is some endosteal healing. Gradually, the fibrous tissue mass is reduced in bulk as the fracture ends are solidified by new bone, which eventually remodels as the stresses indicate. The more anatomically reduced a finger fracture is, the better the function of the finger.

Figure 5a illustrates an oblique fracture. Figure 5b shows the healed fracture with incomplete reduction; the patient has 25° loss of flexion at the proximal interphalangeal joint.

The last chance to salvage a fractured finger is about three weeks after fracture. Then begins the golden period for functional recovery. To succeed, there must be active motion of appropriate type and amount, to include functional splinting when active exercises are failing to accomplish the desired results early.

When the metacarpophalangeal joint is being mobilized, the patient must concentrate on this joint, to avoid automatic





Figure 4.—(a) Compound comminuted fracture with extensor tendon lacerations. Treatment with tendon suture and traction. (b) Fractures healing in good position.

flexion of the proximal interphalangeals, thus losing needed power of the long flexor that can be utilized if the proximal interphalangeal joints are held stiff and all the excursion is carried out at the metacarpophalangeal joint.

If help is needed, a Bunnell knuckle bender splint is indicated. Rarely is the metacarpophalangeal joint difficult to extend. If it is, and help is needed, a Bunnell reverse knuckle bender splint will assist. The proximal interphalangeal joint is mobilized best by use of a block of wood to grasp so that it fits in the base of the palm, then stops just short of the midpart of the proximal phalanx.

If additional help is required in flexing the phalangeal interphalangeal joint, a Bunnell double knuckle bender splint is needed so that metacarpophalangeal and

phalangeal interphalangeal flexion may be carried out, gradually and passively, with active motion carried out by use of the block. The combination of both is best. If help with phalangeal interphalangeal joint extension is needed, a knuckle bender splint with extension outriggers will usually give enough passive help so that with passive extension of the splint, active entension of the long extensors and intrinsics will usually result in restoration of the needed motion.

The last phase of hand injury problems occurs in the occasional individual with sympathetic overactivity that causes continued swelling, pain, and increased sensitivity of the skin. All these factors contribute to the coalescing and nonfunctioning of vital structures. Too little has been discussed about this abnormal continuation of a normal phenomenon in trauma. The increased sympathetic activity is part of the physiological response to trauma. If prolonged, it occurs in all degrees, and goes under such guises as Sudek's atrophy, minor causalgia, and sympathetic dystrophy. Prolonged sympathetic overactivity may be controlled by prevention and control of infection, and early mobilization of all upper extremity joints not involved in the injury, as well as the involved digits. Sparine® in doses up to 100 mg., every three to four hours, combined with long-acting codeine or other analgesic preparations, such as Donnagesic #1 or #2®, is also helpful. These drugs are inducted only in the presence of definite sympathetic overactivity, and then they should be used adjunctively with guided physical therapy and proper dynamic splinting. The patient with arthritic joints will most certainly have trouble when mobilization of the joint is begun (Fig. 6). This problem necessitates earlier mobilization.





Figure 5.—(a) Oblique unstable fracture of fourth proximal phalanyx. (b) Healed fracture of fourth proximal phalanyx with lack of anatomic reduction. Treatment with traction.

Conclusion

In conclusion, it should be pointed out that this necessarily brief discussion could not include all possible fractures in each



Figure 6.—Degenerative articular changes of interphalangeal joints.

given case. However, the essentials utilized in the care of phalangeal fractures have been covered. Continued close evaluation of the end results by the surgeon who treats the patient will necessarily keep him concerned about his method of treatment, as final function in fractured fingers almost never approaches that of a normal digit.

Discussion

Dr. Harry Morris (New Orleans): Dr. Brooks is to be congratulated for his precise presentation of the fundamentals of treatment of fractures of the phalanges. Our contemporaries at the University of California inform us that for only two reasons does a human being exceed in efficiency the lower animals. First is the ability to think logically and second is prehension or the ability to oppose the digits in grasping. It is because of the importance of the hand, with its individual digits, to the economic and functional capacity of the individual that we are constantly striving to improve the end results of trauma to the digits by intelligent early treatment based on fundamental anatomic knowledge and principles. Not too long ago treatment of these then considered insignificant phalangeal fractures was relegated to the "lowest man on the totem pole," and the time and strength of the more experienced surgeons were conserved for taking care of the "big stuff." However, we have been shown by a dedicated group of physicians, principally orthopedic surgeons interested in improving the treatment of hand trauma, that to the individual's future his phalangeal fracture may be more important than a fractured femur, tibia or humerus, and deserves as much or more time, thought, and experienced care as trauma to the major long bones.

Dr. Brooks has carried you skillfully through the fundamental elements of treatment, reduction, immobilization, and restoration of function of phalangeal fractures. I heartily endorse these principles and technics and am convinced that their skillful application will enhance the end results of fractured fingers in any practice.

Forhistal, A New Type of Low-Dosage Antihistamine, For the E.N.T. Patient

• Report of the use of a new antihistaminic drug administered to one hundred patients in an outpatient clinic.

WERNER J. HAGEN, M. D.
Houma

THE specialist in ear, nose and throat often is called upon to treat certain types of allergic patients because these systems are frequently involved symptomatically. Likewise, intercurrent upper respiratory infections in allergic patients may produce more frequent E.N.T. complications such as tubotympanitis, serous otitis media, requiring the specialist's attention. Since the allergic problems in such cases often are those that respond well to symptomatic antihistamine therapy, familiarity with the drugs utilized is a necessity. Needless to say, proper referral must be made for the patient whose allergy requires more definitive treatment.

The significance and acceptability of the antihistamines in allergic disorders need no elucidation on my part; the variety used in practice attests to that. Recently, however, there have been developed several highly potent, low-dosage antihistimines which have begun to replace the standard products of the past.

The most recent addition to these new antihistamines belongs to a new series of chemical compounds, the indenes, and has demonstrated high potency in low dosage with few of the usual antihistamine side effects. This drug has the generic name dimethpyrindene* and is designated as:

2-(1-(2-(2-dimethylaminoethyl)-3-indenyl)-ethyl)-pyridene maleate.

Details of the pharmacologic and other laboratory studies need not be cited here since they have been noted in previous publications.[1, 2] Suffice it to say that dimethpyrindene in laboratory animals has shown excellent antihistamine activity, more prolonged than that of certain other widely used drugs used in treating allergic patients, and a very low order of toxicity.

Clinical studies by a large number of physicians, several of whom have published their findings,[3-8] have demonstrated the effectiveness of dimethpyrindene in a wide variety of allergic patients from infancy to old age. Seasonal allergies and pruritus have responded particularly well; rapid absorption of the orally administered drug permits early onset of action and produces maximal effects within an hour. Analysis of the cumulative clinical reports indicates less sedative action than with several other antihistamines; other side effects are practically negligible. Duration of symptomatic control is about three to four hours with the 1 mg. tablets of dimethpyrindene. The 2.5 mg. Lontabs® have an equally rapid onset of action and provide relief for about eight hours.

Clinical Study

One hundred patients from the outpatient clinic of our ear, nose and throat hospital were selected as subjects for evaluation of dimethpyrindene. Ages ranged from 3 to 60 years and both sexes were included. Dosage ranged from 0.5 mg. t.i.d. to 1.0. q.i.d., being adjusted individually according to severity of symptoms and response.

Diagnostic categories and responses to treatment are summarized in Table 1. It will be noted that a few cases (categories C and D) were treated despite absence of E.N.T. symptoms; this was done simply because they were old patients of our clinic.

* Forhistal® maleate, Ciba.

TABLE 1
EFFECTS OF DIMETHPYRINDENE IN 100 PATIENTS

Diagnoses	Number of Pts.	Symptomatic Responses			
		Very Good	Good	Fair	Poor
A. Perennial Rhinitis	14	8	4	1	1
B. Seasonal Rhinitis	35	22	12	0	1
C. Pruritis, probably allergic	3	2	0	0	1
D. Acute Urticaria with severe pruritis	3	3	0	0	0
E. U.R.I., uncomplicated	15	10	3	1	1
F. U.R.I. with E.N.T. complications	23	17	3	1	2
G. Tubotympanitis, serous otitis media	7	3	2	0	2
TOTALS	100	65	24	3	8

It should be noted that if E.N.T. complications required additional therapeutic measures, simple surgery (i.e. myringotomy) and the appropriate antibiotic were utilized along with dimethpyrindene administration.

Our results as to optimum responses of seasonal rhinitis and pruritis were substantially in agreement with those of other investigators. Perennial rhinitis cases were somewhat less responsive, but results still compared well with the use of other antihistamines.

In acute coryza the best drug responses were found in those cases having eosinophiles in the nasal smear.

Of most immediate importance in our special field, we found dimethpyrindene valuable as part of the management of upper respiratory infections with complications such as tubotympanitis, low-grade sinusitis and serous otitis media. This type of otitis, especially, appeared to resolve more rapidly with the use of this drug.

Side effects were minimal and occurred altogether in less than 10 per cent of patients. Slight drowsiness was the most frequently reported complaint, but it did not necessitate discontinuance of the drug in any case.

About a third of the patients who were questioned as to duration of symptomatic relief stated that dimethpyrindene seemed better than drugs used previously.

Conclusion

Dimethpyrindene has excellent specific applicability to problems commonly presented to the ear, nose and throat specialist, and it is our belief that it is well worth further clinical use. The effectiveness and freedom from severe side effects of this member of a new chemical series introduce a promising new antihistamine development to the medical profession.

References

1. Huebner, C. F., Donoghue, E., Wenk, P., Sury, E., and Nelson, J. A.: J.A.C.S. 82:2077 (April 20) 1959.
2. Barrett, W. E., Huebner, C. F., Plummer, A. J., and Deitrich, A.: The Pharmacologist 1:60 (Fall) 1959.
3. Schiller, I. W.: Bull. Tufts - New England M. Center 6:83 (April-June) 1960.
4. Committee on Drugs, American Academy of Allergy: J. Allergy 31:283 (May-June) 1960.
5. Bubert, H. M.: Maryland M. J. 9:376 (July) 1960.
6. Carpenter, C. L., Neder, G. W. and Derbes, V. J.: South. M. J. 53:1017 (Aug.) 1960.
7. Thomas, J. W., and Kelly, F. R., Jr.: Ann. Allergy 18:876 (Aug.) 1960.
8. Grater, W. C.: International Record of Medicine 174:31-33 (January) 1961.

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Officers Pro Tem
JAMES A. MILLER, Ph.D., D.Sc., President
DONALD F. M. BUNCE, Ph.D., Secretary

1. Studies on the migration of the epithelium on the external surface of the membrana tympani. **Peter W.R.M. Alberti**, Department of Anatomy, Emory University.

2. A neurophysiological technique for studying a small number of fibers that join a larger nerve. **F. Eugene Doenges**, University of Missouri School of Medicine.

3. Anatomical problems in the transplantation of the canine liver. **John E. Healy, Jr., M. D.**, The University of Texas Post-Graduate School of Medicine.

4. A method for the microscopic study of the living lung in the closed thorax. **Vernon E. Krahl, William E. De Alva, W. Gerald Rainer**, and **Giles E. Filley**, Cardiopulmonary Laboratory, Univ. of Colorado Medical Center.

5. Conversion of Collagen and Reticulum Fibers into "Elastic Fibers". **G. Kuhns, Holde Puchtler**, and **Faye Sweat**, Department of Pathology, Medical College of Georgia.

6. Histochemical and chromatographic studies on the plasmalogens of infarcted skeletal muscle of the dog. **Richard M. Landry** and **Victor J. Ferrans**, Tulane University.

7. An electromyographic study of selected muscles acting on the wrist. **Gordon B. McFarland, Jr., Hal T. Weathersby**, and **Ursula L. Krusen**, Departments of Physical Medicine and Rehabilitation and Anatomy, University of Texas Southwestern Medical School.

8. Hypertension induced by means of X-rays: with histochemical studies. **Robert McKelvey**, Department of Anatomy, Emory University.

9. Hypoxia-hypercapnia, cooling and asphyxia in kittens. **Faith S. Miller** and **James A. Miller**, Department of Anatomy, Tulane University.

10. Recovery of regenerative ability in limbs of Triturus after x-irradiation when normal epidermis is added. **S. Meryl Rose** and **Florence C. Rose**, Department of Anatomy, Tulane University.

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1. **Studies on the migration of the epithelium on the external surface of the membrana tympani. Peter W.R.M. Alberti,** Department of Anatomy, Emory University.

The fate of the external layer of the membrana tympani is assuming great clinical importance. This has been studied by painting the external layer of the drum with dye in human subjects. It is suggested that in a large portion of cases the epithelium migrates centrifugally from the region of the umbo, across the drum on to the walls of the bony external canal, eventually being shed at the bony-cartilaginous border, and eliminated with cerumen.

2. **A neurophysiological technique for studying a small number of fibers that join a larger nerve. F. Eugene Doenges,** University of Missouri School of Medicine.

The technique is based on those of Ritchie ('57a, '57b) but differs in that nicotine is used; and also, in that after the large nerve complexes are decreased in size by activating impulses in the small number of fibers joining the large nerve, they are then increased in size by blocking any activated and "spontaneous" impulses in the small component. Nicotine is used because of its dual action to activate and then block conduction in nerve

fibers, and because of its selective action to block synaptic junctions in a ganglion more readily than fibers passing through the ganglion.

The procedure is to record the potential complexes of the large nerve for a time before and after application of nicotine, with or without electrical stimulation, to the small component or to the ganglion if there is one in the course of the component. The alteration of activity in the small component will be revealed in the alteration of the recorded complexes of the large nerve.

In many peripheral nerves which have a small component of fibers from a ganglion, this technique will provide an approximation of what percentage of the fibers in the large component are from the small component and in certain cases may provide information as to nature of the fibers in the small component.

3. **Anatomical problems in the transplantation of the canine liver.**[1] **John E. Healey, Jr., M. D.,** The University of Texas Post-Graduate School of Medicine.

Whole organ transplantation in the experimental animal is an extremely difficult procedure because of the numerous vascular anastomoses which need to be performed. In liver transplantation, the inferior vena cava both above and below that organ, as well as the portal vein and the hepatic artery, must be re-approximated by end-to-end anastomosis in order to restore hepatic circulation. With a trained surgical team, this phase of the procedure requires approximately one hour to complete. The anoxic condition of the liver during this time almost invariably results in the production of a state of irreversible shock. We have devised a means of re-establishing hepatic circulation within a period of seven minutes by means of a specially designed vascular clamp (anastomat). The clamps are easily applied, permit a leisurely repair, and can be removed from the vessel with ease following the repair.

Other anatomical problems including reestablishment of biliary flow, the ligation of the phrenic veins, and the maintenance of portal and caval blood flow during the transplantation procedure will be discussed.

4. **A method for the microscopic study of the living lung in the closed thorax.**[2] **Vernon E. Krahl,**[3] **William E. De Alva, W. Gerald Rainer,** and **Giles F. Filley.** Cardiopulmonary Laboratory, U. of Colorado Medical Center.

The most accurate histophysiologic information is gained by observing living tissues. The complete dependence of the lung for its form, dimensions and normal function upon (a), a closed thorax and (b), the mechanical forces of the moving diaphragm and thoracic walls requires that this organ be studied in the living animal and in the closed thorax. The following method provides for the microscopic study of the lung under these conditions.

A permanent window of glass and stainless steel is installed in the rabbit's lateral thoracic wall. The lung surface may be observed by incident light supplied through the Ultropak objective. For the study of deeper structures by transillumination, a Teflon port is placed in the lateral abdominal wall about three inches caudal to the thoracic window. During observation of the lung the port is fitted with a vinyl sleeve. A quartz rod (Knisely apparatus) is passed into the peritoneal cavity within the sleeve until its tip touches the diaphragm opposite the thoracic window. The translucent diaphragm readily permits light conducted by the rod to transilluminate the lung. Heat at the tip of the rod is dissipated by water flowing through the vinyl sleeve.

Observations may be made immediately following installation of the windows and at intervals for one month or longer. The

[1] Aided in part by an American Cancer Society Institutional Grant.

[2] Supported in part by Training Grant No. HTS 5450 and HTS 5450(S1) from the National Heart Institute of the Public Health Service.

[3] Permanent addless: Department of Anatomy, University of Maryland School of Medicine, Baltimore, Maryland.

method allows the study of normal alveolar dimensions and pulmonary circulation, but also may be used to study responses of lung tissue to air pollutants, activity of phagocytes and the development of various pulmonary diseases.

5. **Conversion of collagen and reticulum fibers into "elastic fibers".**[4] **G. Kuhns, Holde Puchtler,** and **Faye Sweat,** Department of Pathology, Medical College of Georgia.

Acetylation, sulfation or phosphorylation induce binding of resorcin-fuchsin by basement membranes, reticulum fibers, collagen, and other tissue structures containing polysaccharides. Extraction procedures indicate binding of resorcin-fuchsin by non-ionic bonds, presumably hydrogen bonds between phenolic hydroxyl groups of the dye and ester groups in the tissue.

Electron microscopic studies by Hall have shown that collagen can be converted into elastica-like material. It seemed interesting to investigate whether such pretreated fibers also acquire the staining properties of elastic fibers. Sections of human kidneys, fixed in absolute alcohol or Carnoy's fluid and embedded in paraffin, were treated with hot distilled water, acetic, trichloracetic, formic, oxalic, hydrochloric, or nitric acid, borate buffer, 10% $CaCl_2$ or 0.1 N NaOH, and stained with resorcin-fuchsin. Collagen and reticulum fibers were intensely colored, but basement membranes remained unstained.

The intense staining of collagen and reticulum fibers with resorcin-fuchsin indicates that binding of this dye does not convey any information concerning the protein moiety of tissue structures, whether it is collagen or elastin, but apparently demonstrates compounds associated with proteins, presumably polysaccharide esters. Thus, resorcin-fuchsin can not be considered specific for elastic fibers in the chemical sense of the term.

6. **Histochemical and chromatographic studies on the plasmalogens of infarcted skeletal muscle of the dog.**[5] **Richard M. Landry**[6] and **Victor J. Ferrans,**[7] Tulane University.

Experimental infarction of skeletal muscle was produced by means of injection of ion exchange resin beads (Dowex 50X-16, hydrogen form, 100 mesh) into the femoral artery of dogs. The contralateral leg was used as a control throughout.

Fresh-frozen cryostat sections of the infarcted areas of muscle showed a marked decrease in the concentration of plasmalogens as determined by plasmal reaction, along with an increase in the concentration of neutral lipids as evidenced by staining with Sudan Black B, Phosphine and Nile Blue.

Paper chromatographic analysis of the lipids extracted from the infarcted muscle confirmed these findings and in addition showed the presence of a new plasmalogen with chromatographic properties similar to those of the plasmalogen previously found by Hack and Ferrans (Circ. Res., VIII, 738, 1960) in infarcted heart muscle of the dog.

The significance of these findings will be discussed.

7. **An electromyographic study of selected muscles acting on the wrist. Gordon B. McFarland, Jr., Hal T. Weathersby,** and **Ursula L. Krusen,** Departments of Physical Medicine and Rehabilitation and Anatomy, University of Texas Southwestern Medical School.

The kinesiology of 10 muscles acting on the wrist has been studied by means of multichannel electromyography. An electrogoniometer was used to record the position of the wrist simultaneously with the action potentials of the muscles producing the motion. Eighteen normal subjects were used in this study.

The principal radial abductors were the extensor carpi radialis longus and brevis, abductor pollicis longus, flexor carpi ra-

[4] Supported by USPHS research grant #RG-7303 and Medical College of Georgia Professional Research Fund Grant #51-79.

[5] This investigation has been supported by grant HTS 5133 from the National Institutes of Health, United States Public Health Service.

[6] Fellow of the Cardiovascular Research Graduate Training Program, Tulane University.

[7] National Heart Institute Research Fellow in Cardiology, Department of Medicine, Tulane University School of Medicine.

dialis and extensor pollicis brevis. The amplitude of spikes from the extensor carpi ulnaris was usually much greater than that of the flexor carpi ulnaris in ulnar deviation. The extensor digitorum and the flexor digitorum superficialis showed activity at the extremes of both radial and ulnar deviation.

All posterior antebrachial muscles crossing the wrist joint were involved in simple extension of the wrist, with the extensor carpi radialis brevis and extensor carpi ulnaris being most active. However, the pattern of activity was changed when both the wrist and metacarpophalangeal joints were extended simultaneously, in which actions a reciprocal relationship existed in most subjects between the extensor carpi radialis brevis and the extensor digitorum. Flexor antagonist activity was uniformly present when the wrist was extended and the metacarpophalangeal joints were hyperextended.

8. **Hypertension induced by means of X-rays: With histochemical studies.**[8] **Robert McKelvey,** Department of Anatomy, Emory University.

Hypertension was induced by x-ray irradiation directed to both kidneys of unoperated rats. The irradiation was administered in a single dose of 1200r to one group and 3000r in fifteen fractions to a second group. Blood pressures were determined at intervals for insulted and control animals.

Some histochemical studies were made on sections of kidneys. The enzymes investigated included: succinic dehydrogenase, glucose-6-dehydrogenase, glutamic dehydrogenase, and glucose-6-phosphatase.

9. **Hypoxia-hypercapnia, cooling, and asphyxia in kittens.**[9] **Faith S. Miller** and **James A. Miller,** Department of Anatomy, Tulane University.

Studies on neonatal puppies and guinea pigs have established the principle that pretreatment with hypoxia-hypercapnia protects mammals from some of the deleterious effects of hypothermia, thereby increasing the protection against asphyxia conferred by reduction in body temperature. Confirmatory results have been obtained for neonatal cats. The survival time of kittens when asphyxiated after cooling to 15° body temperature without hypoxia-hypercapnia was approximately 10 times as long as that of normothermic littermates. However, when hypoxia and hypercapnia were induced during cooling kittens lived nearly twice as long as littermates which had been cooled rapidly while breathing air. Results were similar whether the hypoxia and hypercapnia were produced by rapid lowering of temperature in icewater (5 minutes) while the animals breathed 10% O_2 + 5% CO_2 or by slow cooling (45 minutes) while the animals rebreathed air in a closed vessel packed in ice.

10. **Recovery of regenerative ability in limbs of Triturus after x-irradiation when normal epidermis is added. S. Meryl Rose** and **Florence C. Rose,** Department of Anatomy, Tulane University.

Limbs of adult *Triturus* were x-rayed with a dosage of 2000r. This prevents regeneration. Radioautographs of limbs x-rayed and treated with tritiated thymidine indicate that a dose of 2000r does not prevent incorporation of the thymidine into DNA and mitosis does not decrease in the x-rayed epidermis, but internal changes after amputation associated with regeneration do not occur or occur very slowly. The usual loss of internal structure and concurrent elaboration of a blastema fails.

If limbs are amputated and the x-rayed stumps provided with a normal epidermis limb regeneration ensues. In contrast to the totally x-rayed limbs, x-rayed limbs provided with normal limb epidermis produce a blastema and all missing parts regenerate. Preparations stained for nerves indicate that the normal dose association of nerves and wound epidermis is lacking after x-irradiation and amputation. When x-rayed limbs are provided with a normal epidermis, nerves penetrate the epidermis in great numbers.

[8] Supported by a Grant from the Life Insurance Medical Research Fund.

[9] Supported by N.I.H. Grant #B2279.

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Editorial

Diabetic Neuropathy

Diabetes mellitus as a clinical entity has been recognized for a greater time than most other diseases. It has been described since the time of Moses. Apparently it is increasing in frequency at the present time. There are now about one million five hundred thousand known cases of diabetes in the United States. An equal number, it is estimated, exists in the population whose condition is unknown to themselves and to their physicians. If those individuals were included whose only evidence of diabetes at the present time is a positive glucose tolerance test the numbers in both categories would be even greater.

Diabetic neuropathy has been recognized since 1798. But its neurological complications have been a serious source of concern principally in the last seventy-five years. Even now, accurate definition of what constitutes diabetic neuropathy is somewhat confused and the prevalence of the condition is affected in the same way. The percentage of individuals having diabetes mellitus and giving evidence of neuropathy is variously reported as ranging from 0 to almost 100 per cent. It is probable that approximately one-half of diabetics will show evidence of neuropathy, if carefully studied, at some time in their course.

Its manifestations and recognition therefore become a matter of grave importance in all fields of medicine, particularly among those who see the most diabetics, namely, the general practitioner and the internist. The manifestations of diabetic neuropathy may be grouped as sensory, motor—including myopathy, and autonomic. The most frequent disturbance in diabetic sensory neuropathy is pain in the legs (often nocturnal), muscle tenderness, loss of Achilles reflexes, and loss of vibratory sensation of feet and ankles. The motor disorders have included isolated nerve palsies of the oculomotor, abducens, and facial nerve; and certain au-

thorities have described a purely motor diabetic syndrome among the manifestations of which are weakness and wasting of muscles. Syndromes of diabetic neuropathy in the autonomic nervous system include: paroxysmal nocturnal diarrhea, impotence, bladder paralysis, loss of sweating, postural hypotension, postural tachycardia, neuropathic joints, and perforating ulcers.

The biochemical processes by which the degeneration of nerve pathways is brought about is not clear. The causes of the nerve degenerations have been considered under vitamin deficiency, hyperglycemia and intermediate metabolic disturbance, and ischemia from arterial changes caused by or developing from the diabetes. It is the opinion of most investigators that the problem is not one of vitamin deficiency, and if such exists, it is a concomitant disease and may react upon the neuritis, clouding the picture but not causing it.

Ischemia from arterial changes is in the same category. The actual cause of damage to the nerve tissue is probably an intermediate metabolic disturbance associated with, or due to the hyperglycemia—probably the former. It has been suggested that deviations in the pyruvate metabolism are related to the degenerative process of diabetic neuropathy.

Etiological factors related to the circumstances in the patient with diabetes, who is going to develop diabetic neuropathy, have been the subject of considerable discussion. A typical summary has been: "peripheral neuritis and diabetes is a common complication of neglected diabetes over long periods." An opposing view [1] is that neuropathy may occur during good control and there may be simultaneous onset of neuropathy and the symptoms of uncontrolled glycosuria. Neuropathy may be unrelated to the duration or severity of the diabetes. Neuropathy may be the initial clinical manifestation of diabetes unattended by symptoms of hyperglycemia and glycosuria. Paradoxic precipitation of neuropathy following the institution of good control by diet, insulin, tolbutamide has been observed.

Neuropathy may follow stress situations. In these instances, a relatively constant latent period exists.[1] Diabetic neuropathy in this view should be regarded as an essential integral feature of the syndrome of diabetes mellitus, rather than a complication of the disease. Such a review has also been stated in regard to retinopathy by other authorities.

The diagnosis of diabetic neuropathy, although not difficult, is generally one of the least precise clinical diagnoses. The disturbing factor is that the newly discovered diabetic or the patient with diabetes which is not properly controlled is subject to many symptoms of a sensory nature which may vary from minor hypesthesias to a syndrome of an acute surgical abdomen, but without demonstrable nerve lesions. Subsequently, the diabetic may develop a peripheral diabetic neuropathy resembling in many respects those associated with other types.

Manifestations of this include: muscular cramps and aching, muscular weakness—especially of the legs, possibly a flaccid paralysis or bilateral wrist-drop or foot-drop, severe shooting pains or hypesthesias, areas of anesthesia or unsteadiness of gait, and in all these disturbances the lower extremities were more severely affected than the upper. These symptoms would be intensified following acute infections and lapses in the proper care of diabetic management.

The treatment of this condition is the proper and complete treatment of the diabetes itself. In addition to this, to provide for the comfort and the disabilities of the patient, the special manifestations should be met in conditions such as pain, hypesthesia, perforating ulcers, neurotrophic joint destruction, paralyses, and depressive emotional reactions to the associated disorders.

Accordingly, the physician in dealing with diabetes is continually called upon to take into consideration its protean manifestations, including degenerative lesions in the nervous system.

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[1] Ellenberg, Max: Diabetic Neuropathy: A consideration of factors in onset, Ann. Int. Med. 52:1067 (May) 1960.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

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MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Jefferson	Third Thursday of every month	
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

SURGICAL ASSOCIATION OF LOUISIANA

The Surgical Association of Louisiana will hold its annual meeting on Sunday, November 12, 1961, headquarters at the Sheraton-Charles Hotel, New Orleans.

A panel discussion on Chemotherapy of Tumors will begin at 9:30 a.m., with Dr. Ambrose H. Storck of New Orleans as Moderator. Beginning at 1:00 p.m., there will be a panel discussion on Hiatal Hernia with Dr. Hugh Ilgenfritz of Shreveport as Moderator.

Out-of-State speakers are Edward H. Ellison, M. D., Professor and Chairman, Division of Surgery, Marquette University School of Medicine, Milwaukee, and Carl A. Moyer, M. D. Bixby Professor of Surgery and Head of the Department, Washington University School of Medicine, St. Louis.

AMA CLINICAL MEETING SET NOV. 26-30 AT DENVER

The 15th annual clinical meeting of the American Medical Association will be held November 26-30 at Denver, with a program geared to basic problems of medicine faced by physicians in their practice.

An outstanding scientific program, with emphasis on new research developments, has been planned under the direction of Samuel P. Newman, M. D., Denver, chairman of the AMA'S Council on Scientific Assembly.

Some highlights will include sessions and papers on such important areas of medicine as genes and chromosomes, electronics and computers in medicine, space medicine, medical aspects of American habits, new developments in virology, treatment of radiation injuries, new findings in chemotherapy for cancer and latest data in the field of antibodies and antigens, Dr. Newman said.

With more and more nuclear reactors coming into use all over the nation, many practicing physicians soon may begin to face the problem of treating injuries from radiation accidents, the chairman said.

A section of internationally known experts in the treatment of radiation injuries will offer three major papers in this important new area of medical care. Chairman will be Marshall Brucer, M. D., chairman of the medical division, Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tenn.

The radiation experts will discuss such topics as "Potential and Probable Sources of Radiation Accidents," "Diagnosis and Pathology of Radiation Injury" and "Treatment and Prognosis of Radiation Injury." Participants will include researchers from Los Alamos and Oak Ridge, the Office of the Surgeon General and the University of Chicago.

The age of advancing physical science also offers new findings to medical science: the use of electronics and computers in medicine. Chairman of this section at the Denver meeting will be A. H. Schwichtenberg, M. D., head of the department of aero-space medicine, Lovelace Foundation for Medical Education and Research, Albuquerque, N. M.

Computer systems for recording medical data to aid the physician in his diagnosis and prognosis will be discussed. Topics will include "The Future of Electronics in Medicine," "Microelectronics and New Concepts of Bioinstrumentation," "A System for Medical Data Recording," and "Biological Computers."

The virus, one of the most complex problems facing the clinician, will be the subject of a series of papers by outstanding specialists. Jonas E. Salk, M. D., Pittsburgh, originator of the killed virus polio vaccine, will give a paper on "Immunization Against Virus Diseases." Other topics will include "The Nature of the Virus and Its Cellular Reaction," "Smallpox Vaccination Complications," "Virus Hepatitis" and "Identification of Viruses."

"We are confident that the 15th annual clini-

cal meeting will offer one of the most interesting and informative programs ever presented at the winter session," Dr. Newman said.

"The program is designed to assist the physician in his practice. The latest findings in many areas of medicine will be presented by men who are top specialists in their fields. The meeting will be of great value to the clinician in advancing his knowledge."

1961 CONVENTION, LOUISIANA ACADEMY OF GENERAL PRACTICE

Dr. Francis I. Nicolle, Secretary of the Louisiana Academy of General Practice and 1961 Convention Chairman, has announced that the Academy will hold its fifteenth annual scientific assembly at the Hotel Monteleone in New Orleans on October 17-19, 1961. This program is accepted for eleven hours Category I credit by the American Academy of General Practice. Registration fee will be $5.00.

Dr. Rafael C. Sanchez of New Orleans, Speaker, will open the sessions of the Congress of Delegates on the morning of October 17. Dr. John G. McClure of Welsh is Vice-speaker of the Congress.

The Scientific Assembly will begin on the afternoon of October 17 with Dr. Ernest B. Flake as presiding officer. Welcoming addresses will be made by the Honorable Victor H. Schiro, Mayor of New Orleans; Dr. J. Theo Brierre, President of the Orleans Parish Medical Society, and Dr. Farrell R. Nicholson, President of the Jefferson Parish Medical Society. Dr. Nicholle will make the response for the Academy.

Following is a list of guest speakers and their topics: Recognition and Management by the General Practitioner, by Dr. Wm. G. Crook, Jackson, Tenn.; Pelvic Pain, What It Is and What To Do About It, by Dr. Wm. F. Guerriero, Dallas, Tex.; Allergy in Children, Part II, by Dr. Wm. G. Crook, Jackson, Tenn.; Clinicopathologic Conference, Dr. Andrew S. Ranier, Lake Charles, La.; Carcinoma of the Cervix, the Endometrium and the Ovary, by Dr. Wm. F. Guerriero, Dallas, Tex.; The Peculiar Looking Child, by Dr. Sydney S. Gellis, Boston, Mass.; Treatment of Acute Hand Injuries, by Dr. Daniel C. Riordan, New Orleans; The Use of Gamma Globulin in Infancy and Childhood, by Dr. Sydney S. Gellis, Boston, Mass.; Treatment of Fractures of the Hand, by Dr. Daniel C. Riordan, New Orleans; Some Aspects of Estate Planning, by Mr. Arthur J. Riggs, Dallas, Tex. and A Systematic Approach to the Use of Laboratory Determinations for Diagnosis, by Dr. Andrew S. Ranier, Lake Charles, La.

The Woman's Auxiliary will hold its annual business session and installation of officers during the program. Mrs. E. A. Bertucci, Jr., assisted by Mrs. Pierre A. Donaldson, has arranged a full program of social activities for the ladies.

Dr. Boyd M. Woodard of Lake Charles is President-Elect.

SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY SOUTHERN MEDICAL ASSOCIATION

The Section on Ophthalmology and Otolaryngology of the Southern Medical Association, will meet in Dallas, Texas, on November 6-9, 1961.

The program will feature Television surgical clinics on Glaucoma and Laryngectomy. Also, papers and symposiums on Corneal Diseases; Contact Lens; Retinal Detachment; Tympanoplasty; Otitis Media; Tonsillar Techniques, etcetera.

Dr. Trygve Gundersen of Boston, Massachusetts, will be the guest speaker.

For additional information please contact the secretary, Dr. Albert C. Esposito, First Huntington National Bank Building, Huntington, West Virginia.

SECOND POSTGRADUATE SEMINAR INTERNATIONAL MEDICAL-LEGAL SOCIETY

The International Medical-Legal Society announces its second postgraduate seminar to be held in Honolulu February 19-23, 1962.

The goal is to determine the functions of the doctor, the lawyer, and the client in legal cases, and then formulate ethics and rules for doctor-lawyer relations.

This society was founded to promote the interprofessional relations between Doctors and Attorneys. A panel of physicians and attorneys has been selected to equip the attorneys with more adequate medical knowledge, and the physicians with a comprehensive review of the law of medical practice. This is a joint society for both Attorneys and Physicians who deal in medical legal cases or are subject to malpractice.

A five-day meeting has been prepared. Physicians subject to malpractice as well as medical legal work and attorneys involved in similar suits will find the meeting informative and of great value. Speakers of national recognition from both the Medical and Legal professions will be on the program.

The Where-To-Go Travel Service of Seattle has been selected as the sole travel agency to prepare an organized package tour making all travel arrangements for the meeting.

Reservations will be limited as this is the peak travel season for Hawaii. Those interested may contact Wm. P. Hauser, M. D., Executive Secretary, 1206 South 11th, Tacoma, Washington, for further information.

BOOK REVIEWS

Complications in Surgery and Their Management; by Curtis P. Artz, M. D. and James D. Hardy, M. D., Saunders, 1960, 1075 p. $23.00.

With the aid of 69 able contributors, Dr. Artz and Dr. Hardy have compiled a comprehensive volume on the complications of surgery and their management. As stated by the editors in their preface of the book, it was their desire to provide a single text on surgical hazards to be used along with other texts of of surgery, surgical technique, surgical physiology, and surgical pathology. In this respect, they have provided an unique volume which accomplishes their goal admirably.

The format of the book consists of an initial twenty chapters devoted to complications encountered in all types of surgery. General topics such as complications of parenteral fluid therapy, postoperative pulmonary complications, diabetes and nutritional complications in surgical patients, and thromboembolic diseases are discussed. One chapter in this portion of the book discusses miscellaneous complications of tracheotomy, paracentesis, angiography, and drains. The remaining 37 chapters include discussions of complications encountered in specific operations such as: mitral comissurotomy, esophageal and diaphragmatic surgery, surgery of the peripheral arteries, gastric resection, biliary tract surgery, and many others. There are two chapters dedicated to problems of surgery of the aged and pediatric surgery. Complications arising in gynecologic, urologic, and orthopedic procedures are included in three chapters devoted to these surgical specialties. The final chapter of the book considers the pitfalls of burn therapy.

The authors of the text are an impressive group of outstanding authorities in the field of their contribution. Each chapter is prefaced with a brief biographical sketch of the author which is an interesting sidelight that should be used more frequently in medical texts. The book is a valuable reference for all surgeons and particularly for residents and interns. It should be used not only as a reference once a complication arises but also as a preoperative reference to anticipate complications and study methods of preventing them.

W. L. Chapman, M. D.

Recent Advances in Tropical Medicine; by Sir Neil Hamilton Fairley, A. W. Woodruff and John H. Walters, Little Brown and Company, Boston, Third Edition 1961. 480 p. $11.00.

This is a completely new volume since the Second Edition was published thirty-two years ago. It therefore covers a period during which more advances have been made in therapy and etiology of tropical diseases than any comparable period.

These authors have emphasized the clinical aspect and therapy, although there are many short sections on epidemiology, pathology and control. The book will appeal more to the practicing physician rather than the public health officials.

It is an excellent book that through the experience of the authors links the present knowledge with the past. They cover most of the important protozoa, helminthic, bacterial, spirochaetal diseases, short term fevers, venereal diseases, rickettsial diseases, nutritional diseases, and anemia including the heriditary hemoglobinopathies, Kuru and some diseases of uncertain origin. Their index is excellent.

E. A. Cleve, M. D.

The Modern Treatment of Asthma, with Special Reference to Gold Therapy; by L. Banszky, Williams & Wilkins, 1959, 2d ed., pp. 175. Price $5.00.

This provocative book is based on a concept almost certainly incorrect, namely, that the root condition of asthma is due to tuberculinization of the organism (p. 39). The sequel to this, that patients can be helped with gold injections is, however, not necessarily wrong. It is known that a variety of agents which help rheumatoid arthritis also help bronchial asthma; among them may be mentioned the steroid drugs and nitrogen mustard. Gold therapy is of distinct value in the treatment of rheumatoid arthritis, and by extrapolation might also be useful in the treatment of bronchial asthma. In view of his results of 80 to 90 percent success rate, perhaps this method of treatment should be tried more extensively.

Vincent Derbes, M. D.

W. B. SAUNDERS COMPANY features the following recent books in their full page advertisement appearing elsewhere in this issue:

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PUBLICATIONS RECEIVED

(Certain ones of these will be selected for review)

Doubleday & Co., N. Y.: Traitor Within Our Suicide Problem, by Edward Robb Ellis and George N. Allen.

The C. V. Mosby Co., St. Louis: Pathology, by W. A. D. Anderson, M. D. (4th edit.).

W. B. Saunders Co., Phila.: Respiration in Health and Disease, by R. M. Cherniack, M. D., and L. Cherniack, M. D.; The Cervix Uteri and Its Diseases, by C. Frederic Fluhmann, M. D.

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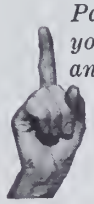
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USUAL ADULT DOSAGE: 1 or 2 capsules 3 or 4 times a day.
SIDE EFFECTS: Panmycin Phosphate has a very low order of toxicity comparable to that of the other tetracyclines and is well tolerated clinically. Side reactions to therapeutic use are infrequent and consist principally of mild nausea and abdominal cramps.
Albamycin also has a relatively low order of toxicity. In a certain few patients, a yellow pigment has been found in the plasma. This pigment, apparently a metabolic by-product of the drug, is not necessarily associated with abnormal liver function tests or liver enlargement.
Urticaria and maculopapular dermatitis, and a few cases of leukopenia have been reported in patients treated with Albamycin. These side effects usually disappear upon discontinuance of the drug.
CAUTION: Since the use of any antibiotic may result in overgrowth of nonsusceptible organisms, constant observation of the patient is essential. If new infections appear during therapy, appropriate measures should be taken. Total and differential blood counts should be made routinely during prolonged administration of Albamycin. The possibility of liver damage should be considered if a yellow pigment, a metabolic by-product of Albamycin, appears in the plasma. Panalba should be discontinued if allergic reactions that are not readily controlled by antihistaminic agents develop.
*Trademark, Reg. U. S. Pat. Off.

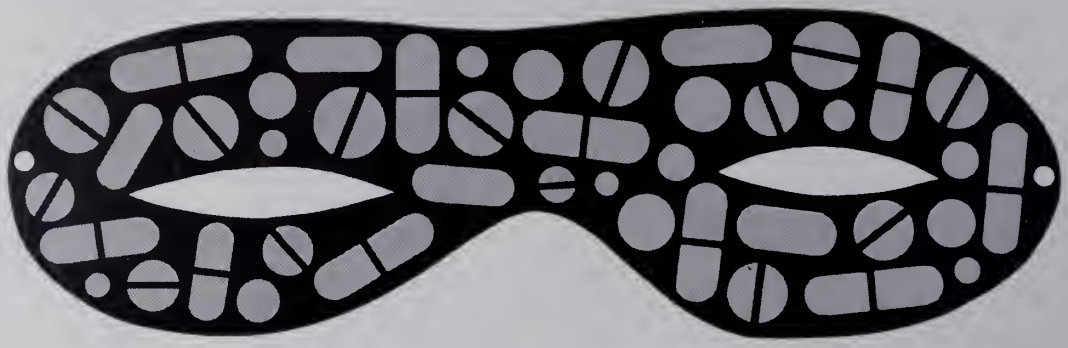
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your broad-spectrum antibiotic of first resort.

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One of the several hastily conceived and potentially dangerous suggestions for reducing drug costs is generic-name prescribing. The proponents of generic-name prescribing claim that it will lower drug costs significantly and—through supervision by the Federal Government—provide quality equivalent to that of trademarked drugs. We maintain that these claims are false. Here are some authoritative answers to the principal questions posed by generic-name prescribing.

How much money would be saved if all prescriptions were written for generic-name drugs?

"The [Rhode Island] Division of Public Assistance examined 10,000 drug prescriptions for welfare recipients for the purpose of determining the actual savings . . . of generic versus trade-name drugs. The drugs had cost $28,000. Substituting generic drugs whenever possible would have provided a saving of less than 5 per cent. Syracuse has made a similar study of drug costs with comparable results."

Rhode Island Medical Journal,
January, 1961

Are the savings worth the risk of sacrificing quality?

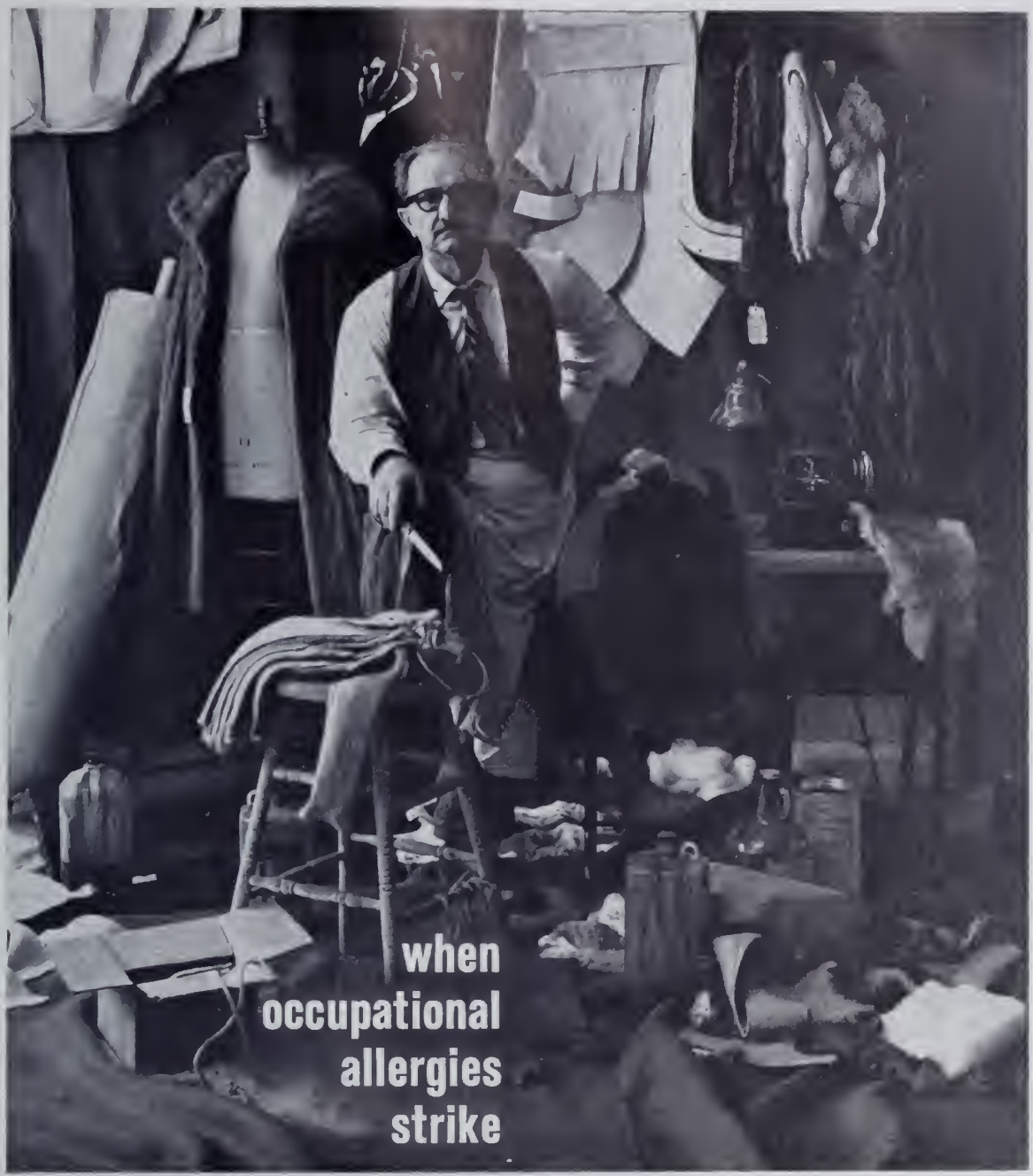
". . . it is unsafe [to prescribe generically] because there is not sufficient policing of our standards. . . ."

Lloyd C. Miller, Ph. D.
Director of Revision of the U.S.P.

"The naive belief that, if a product was not good, the FDA would prohibit its sale is just not realistic. . . . it is completely impossible for the FDA to check every batch of every product of every manufacturer. . . . Hence the integrity and reputation of the manufacturer assume unusual significance where drugs and health products are concerned."

Albert H. Holland, M.D.
formerly Medical Director of the
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CONTINUOUS 10-12 HOUR ACTION

parabromdylamine (brompheniramine) maleate 12 mg.

reliably relieve the symptoms...seldom affect alertness

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"flu" than a simple cold, but an antibiotic is not indicated... prescribe NEW WIN-CODIN* Tablets

New Win-Codin tablets provide greater symptomatic relief from influenza, colds and sinusitis than do simple analgesic-antihistamine combinations. New Win-Codin tablets contain a full complement of the most effective agents available to relieve general discomfort, bring down fever and lessen congestive symptoms.

Each tablet contains:

Codeine phosphate 15 mg.—to relieve local and generalized pain and control dry cough

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Chlorpheniramine maleate 2 mg.—an antihistamine to shrink engorged membranes and lessen rhinorrhea

Ascorbic acid (vitamin C) 50 mg.—to increase resistance to infections†

New Win-Codin tablets will bring more comfort to many patients suffering from severe colds, influenza or sinusitis.

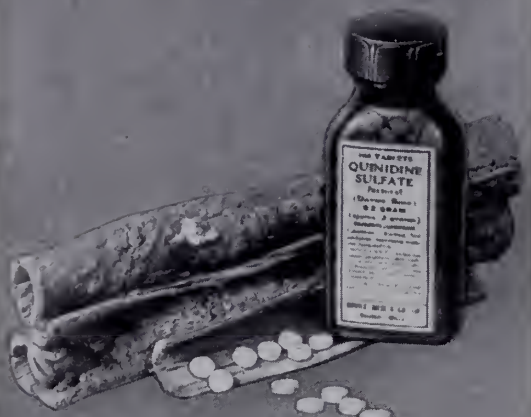
Average dose: Adults, 1 or 2 tablets three times daily; children 6 to 12 years, from ½ to 1 tablet three times daily.

Available in bottles of 100 (Class B narcotic).

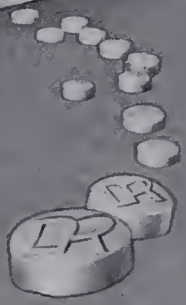
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*Trademark †For persons with vitamin C deficiency
Neo-Synephrine (brand of phenylephrine), trademark reg. U. S. Pat. Off.

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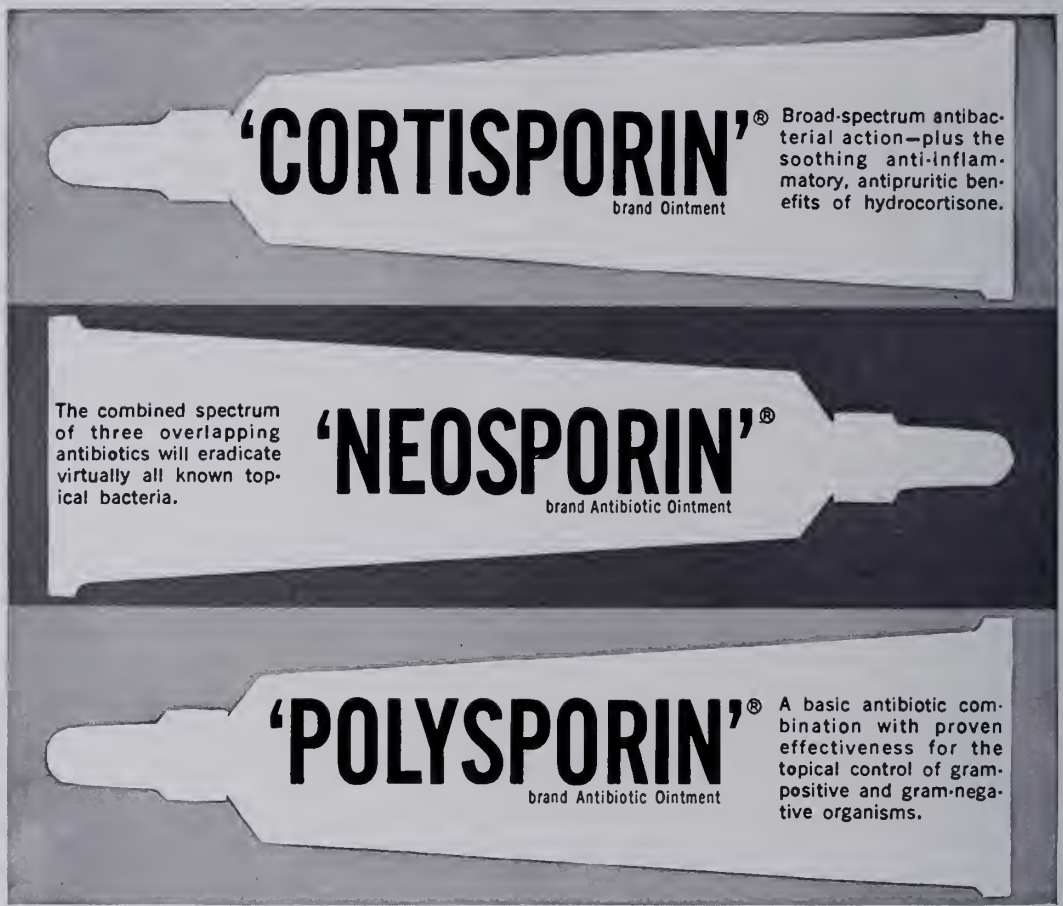
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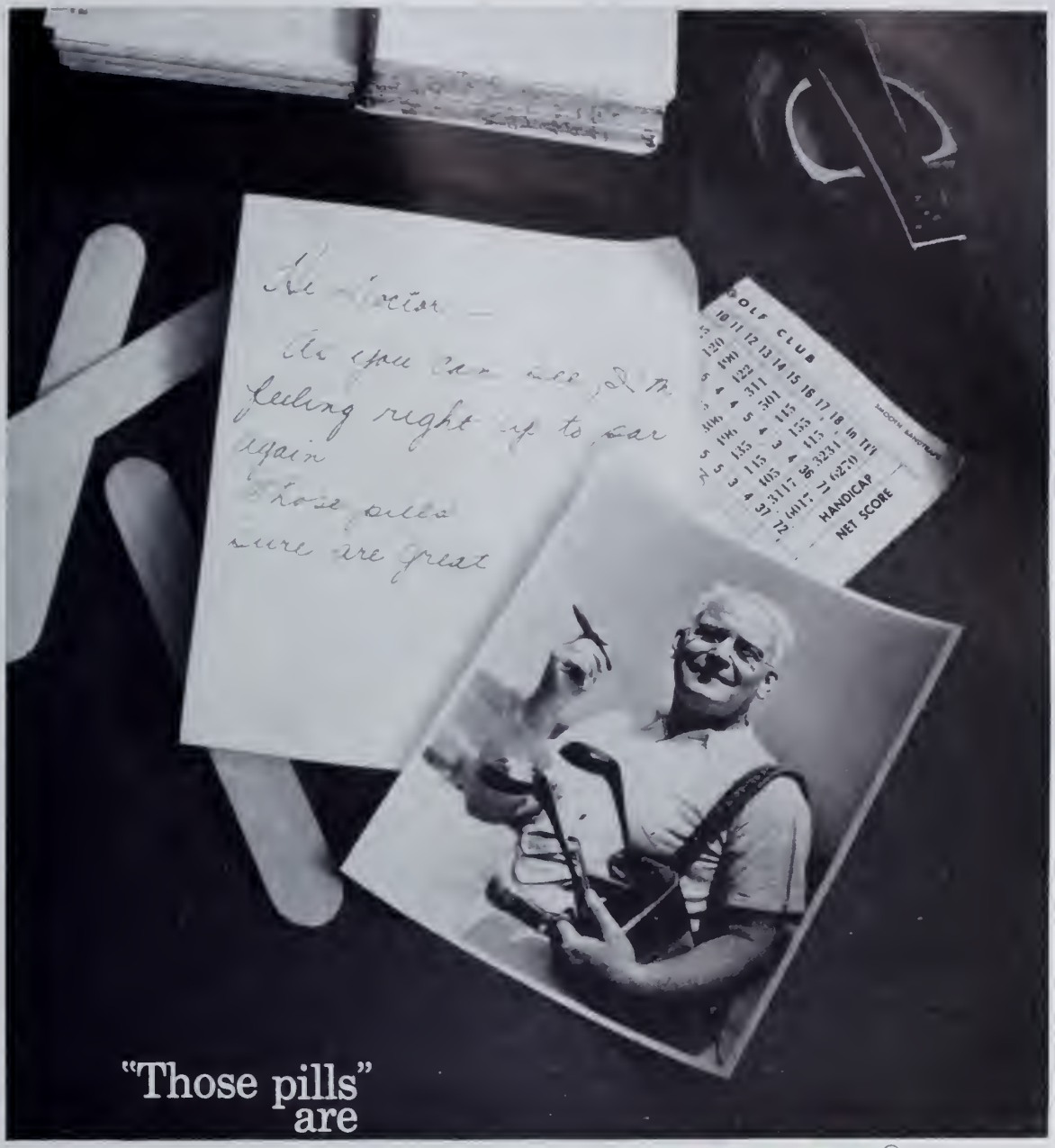
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REQUEST COMPLETE INFORMATION ON INDICATIONS, DOSAGE, PRECAUTIONS AND CONTRAINDICATIONS FROM YOUR LEDERLE REPRESENTATIVE OR WRITE TO MEDICAL ADVISORY DEPARTMENT.

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Plan now to attend the A.M.A. Clinical Session in Denver, November 27-30.

HISTA-VADRIN

when antihistamines alone are not enough



HISTA-VADRIN, an upper respiratory decongestant, is designed for the oral relief of congestion and edema of the upper respiratory passages. The ANTIHISTAMINIC drugs methapyriline and chlor-pheniramine are noted for their ability to prevent vasodilatation and inflammatory edema caused by the release of histamine.

VASOCONSTRICTORS, phenylpropanolamine and phenylephrine oppose mucosal edema by constricting blood vessels which have been dilated by histamine and other factors involved in inflammation. These vasoconstrictors are not as likely to cause excitement or wakefulness as ephedrine or methamphetamine (1).

Indications: For the relief of hay fever, vasomotor rhinitis, and symptoms resulting from upper respiratory infections. Hista-vadrin can afford relief also in other allergic conditions such as urticaria and angioedema.

Each scored Hista-vadrin tablet contains:

Phenylpropanolamine Hydrochloride	40 mg.
Chlor-Pheniramine Maleate	4 mg
Methapyriline Hydrochloride	40 mg
Phenylephrine Hydrochloride	5 mg.

Dosage: Adult Dose, 1 tablet every six hours or in accordance with therapeutic response.

Supplied: Slow release scored tablets designed to disintegrate in 2 to 3 hours.

Reference available on request.

Samples and professional literature on request.

HISTA-VADRIN is another "established need" product

in our 61st year . . . **First Texas *Pharmaceuticals, Inc.***

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Put your low-back patient back on the payroll

Soma relieves stiffness —stops pain, too

YOUR CONCERN: Rapid relief from pain for your patient. Get him back to his normal activity, fast!

HOW SOMA HELPS: Soma provides direct pain relief while it relaxes muscle spasm.

YOUR RESULTS: With pain relieved, stiffness gone, your patient is soon restored to full activity—often in days instead of weeks.

Kestler reports in controlled study: *Average time for restoring patients to full activity: with Soma, 11.5 days; without Soma, 41 days.* (*J.A.M.A. Vol. 172, No. 18, April 30, 1960.*)

Soma is notably safe. Side effects are rare. Drowsiness may occur, but usually only in higher dosages. Soma is available in 350 mg. tablets. USUAL DOSAGE: 1 TABLET Q.I.D.

The muscle relaxant with an independent pain-relieving action

SOMA®

(carisoprodol, Wallace)

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NEOCHOLAN®

Your patient will often respond promptly to Neocholan therapy. It greatly increases the flow of thin, nonviscid bile and corrects biliary stasis by flushing the biliary system. It also relaxes intestinal spasm, resulting in an unimpeded flow of bile and pancreatic juice into the small intestine. Neocholan helps to promote proper digestion and absorption of nutrients. It also encourages normal peristalsis by restoring intestinal tone.

Each tablet provides: Dehydrocholic Acid Compound, P-M Co. 265 mg. (Dehydrocholic Acid, 250 mg.); Homatropine methylbromide 1.2 mg.; Phenobarbital 8.0 mg. Supplied in bottles of 100 tablets.

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"cramps" don't cramp her style...

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Trancoprin®

Aspirin.....(5 grains) 300 mg.
Trancopal® (brand of chlormezanone).....50 mg.

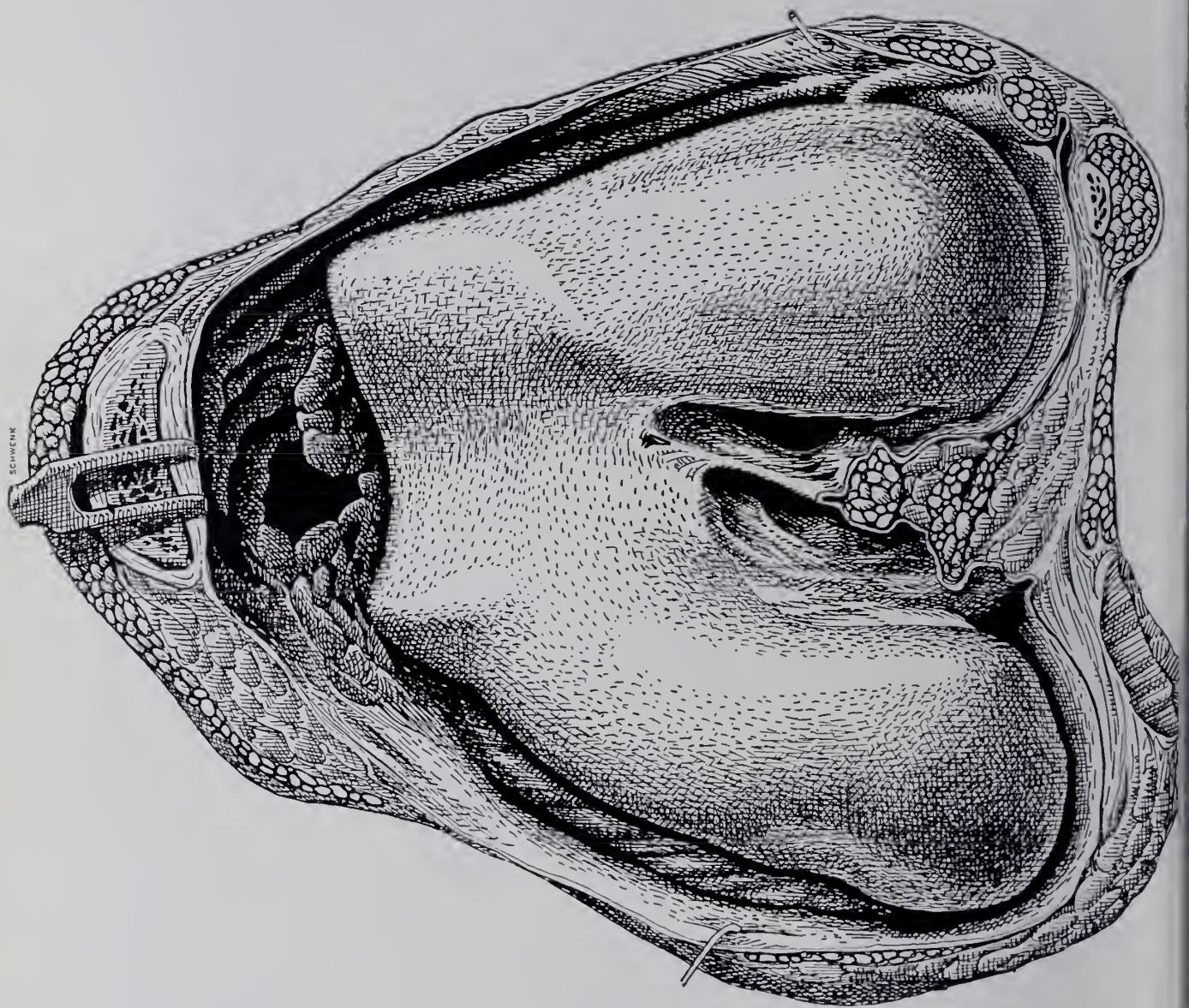
Trancoprin is more than a simple analgesic: It deals with cramping pains in three ways. Besides dimming pain perception, Trancoprin, through its tranquilizing action, reduces anxiety and raises the tolerance for discomfort. And, against the spasm caused by pain which, in turn, produces more pain, Trancoprin exerts its skeletal muscle relaxant action.

Trancoprin is exceptionally safe to use: Fewer than two and a half per cent of patients can be expected to have any side effects, and these are of a minor nature.

Available in bottles of 100 tablets. The usual dosage in dysmenorrhea is 2 tablets 3 or 4 times daily.

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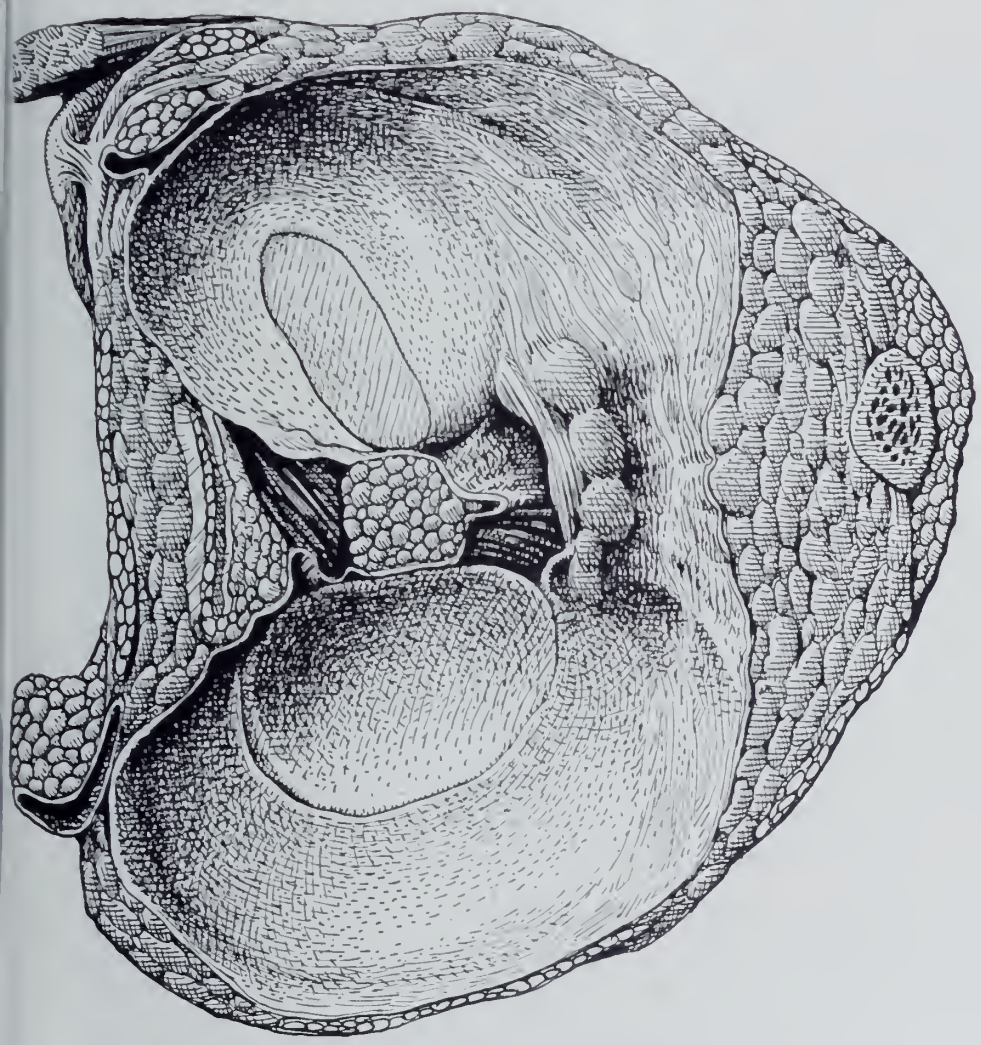
because patients are more than arthritic joints... controlling inflammatory symptoms is frequently not enough!

Even cortisone, with its severe hormonal reactions, can effectively control inflammatory and rheumatoid symptoms. But a patient is more than the sum of his parts – and the joint is only part of a whole patient. Symptomatic control is but one aspect of modern corticotherapy, because what is good for the symptom may also be bad for the patient.

Unsurpassed "General Purpose" and "Special Purpose" Corticosteroid...
Outstanding for Short- and Long-term Therapy

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(Knee Joint, Left: distal end of femur; Right: proximal end of tibia)

ARISTOCORT is an outstanding "special purpose" steroid when the complicating problem is increased appetite and weight gain, sodium retention and edema, cardiac disease, hypertension or emotional disturbance and insomnia.

ARISTOCORT provides unsurpassed anti-inflammatory control without sodium retention or edema — without the undesirable psychic stimulation and voracious appetite.

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SQUIBB VITAMINS FOR THERAPY

For your patients with infections or other illnesses who need therapeutic vitamin support. Each Theragran supplies the essential vitamins in truly therapeutic amounts:

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Riboflavin	10 mg.
Niacinamide	100 mg.
Vitamin C	200 mg.
Pyridoxine Hydrochloride	5 mg.
Calcium Pantothenate	20 mg.
Vitamin B_{12}	5 mcg.

SQUIBB *Squibb Quality—the Priceless Ingredient*

'Theragran'® is a Squibb trademark

"nutrition...present as a modifying or complicating factor in nearly every illness or disease state"[1]

1. Youmans, J. B.: Am. J. Med. 25:659 (Nov.) 1958

cardiac diseases "Who can say, for example, whether the patient chronically ill with myocardial failure may not have a poorer myocardium because of a moderate deficiency in the vitamin B-complex? Something is known of the relationship of vitamin C to the intercellular ground substance and repair of tissues. One may speculate upon the effects of a deficiency of this vitamin, short of scurvy, upon the tissues in chronic disease."[2] 2. Kampmeier, R. H.: Am. J. Med. 25:662 (Nov.) 1958

arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]

3. Fernandez-Herlihy, L.: Lahey Clinic Bull. 11:12 (July-Sept.) 1958

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition. National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57

degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser, W., and Fong, T. C. C.: in Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G. A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]

8. Duncan, G. G.: Diseases of Metabolism, 4th edition, W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958

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in abdominal distention

Associated with air swallowing, functional indigestion, spastic colitis, diverticulitis, peptic ulcer, postoperative gas.

NEW SILAIN T.M.

The original brand of methylpolysiloxane



a gastrointestinal DEFROTHICANT*

Air swallowing, abnormal peristalsis or "nervous indigestion" accelerates foaming. Foam and froth increase the volume of gastrointestinal contents causing discomfort.

SILAIN *dispels foam and froth*

Even normal peristalsis may produce thick, viscous foam in the presence of gastric mucin and gas forming digestive processes.

SILAIN *reduces increased volume*

By lowering interface cohesion, SILAIN breaks down the gas bubbles reducing the foam to a liquid.

SILAIN *provides fast relief*

Relief occurs promptly when foam is broken—entrapped gas is liberated for normal absorption or eliminated by belching or passing flatus—volume decreases immediately.

SILAIN *is safe*

A single non-toxic compound, SILAIN acts physically with no effect on gastrointestinal motility.

FORMULA: Each tablet contains 50 mg. methylpolysiloxane.

DOSAGE: 1 or 2 tablets after meals or more frequently if necessary.

AVAILABLE: 50 mg. tablets in bottles of 100.

Clinical trial supply on request

*DEFROTHICANT—The property of preventing and eliminating foam.

U. S. Patent No. 2,951,011

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in peptic ulcer, hyperacidity, heartburn

Control Gastric

GAS ACID



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NEW SILAIN-GEL T.M.

DEFROTHICANT ANTACID

SILAIN-GEL *non-fatiguing, fruit-mint taste*

Releases Gas—The unique physical property of SILAIN breaks the frothy bubbles liberating the gas for elimination.

Neutralizes Acid—Specially balanced antacid formulation provides efficient neutralization.

DOSAGE—2 tablets after meals and at bedtime. The safety of Silain-Gel permits administration as often as necessary.

FORMULA—Each tablet contains: methylpolysiloxane 25 mg.; magnesium hydroxide 85 mg.; co-precipitated magnesium carbonate and aluminum hydroxide 282 mg.

REFERENCES

1. Roth, J.L.A. and Bockus, H.L.: Aerophagia—Med. Clin. N. Am. *41*:1673 (Nov.) 1957
2. Alvarez, W.C.. Gas in the Bowel: An Introduction to Gastroenterology; Paul B. Hoeber, Inc. Alvarez, W.C.; Syndrome of Reverse Peristalsis: Ibid
3. Barondes, R. de R. et al: The Silicones in Medicine. Mil. Surg. *106*:378, 1950
4. Cutting, W.: Toxicity of Silicones. Stanford M. Bull. *10*:23 (Feb.) 1952
5. Dailey, M. and Rider, J.: Silicone Antifoam Tablet in Gastroscopy. J.A.M.A. 155:859 (June) 1954
6. Rider, J.A. and Moeller, H.C.: Use of Silicone in the Treatment of Intestinal Gas and Bloating. J.A.M.A. *174*:2052 (Dec.) 1960
7. Rider, J.A.: Intestinal Gas and Bloating: Treatment with Methylpolysiloxane. Am. Pract. & Digest Treat. *11*:52 (Jan.) 1960

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NEW **SPECIAL COUGH FORMULA** *for Children*

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SOOTHING DECONGESTANT AND EXPECTORANT

Each teaspoon (5 cc.) contains:

Codeine phosphate	5.0 mg.
Neo-Synephrine® hydrochloride (brand of phenylephrine hydrochloride)	2.5 mg.
Chlorpheniramine maleate	0.75 mg.
Potassium iodide	75.0 mg.



Bright red, pleasant tasting, raspberry flavored syrup

Dosage:

Children from 6 months to 1 year, 1/4 teaspoon; 1 to 3 years, 1/2 to 1 teaspoon; 3 to 6 years, 1 to 2 teaspoons; 6 to 12 years, 2 teaspoons. Every four to six hours as needed.

How Supplied:
Bottles of 16 fl. oz.

Exempt Narcotic

Winthrop
LABORATORIES
New York 18, N Y

NEW...made from 100% corn oil UNSALTED MARGARINE FOR HYPERTENSIVE PATIENTS

* contains only 10 mgs. of sodium per 100 grams
* contains 50% liquid corn oil and 50% partially hydrogenated corn oil
* has 30% linoleic acid—10 times that of butter

Because of the relationship of high-sodium intake to elevated blood pressure, new Fleischmann's Unsalted Corn Oil Margarine will prove to be a valuable addition to the dietary regimen of your hypertensive patients. It contains only 10 mgs. of sodium per 100 grams.

Fleischmann's Unsalted Margarine is made from 100% corn oil and contains both liquid corn oil and partially hydrogenated corn oil. Its linoleic acid content of 30% is three times higher than the 10% of regular margarines and ten times higher than the 3% of butter. This is the *only* unsalted margarine made from 100% corn oil.

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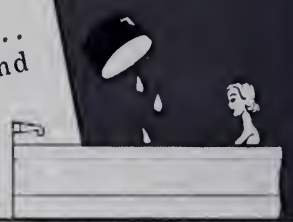
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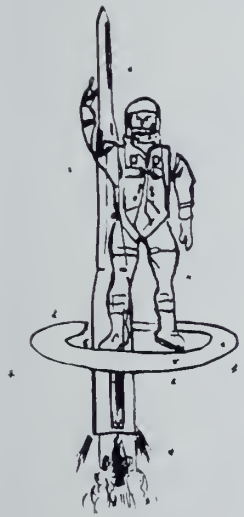
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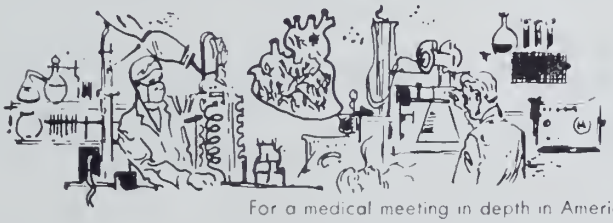
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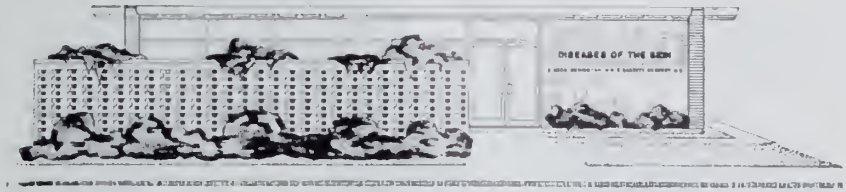
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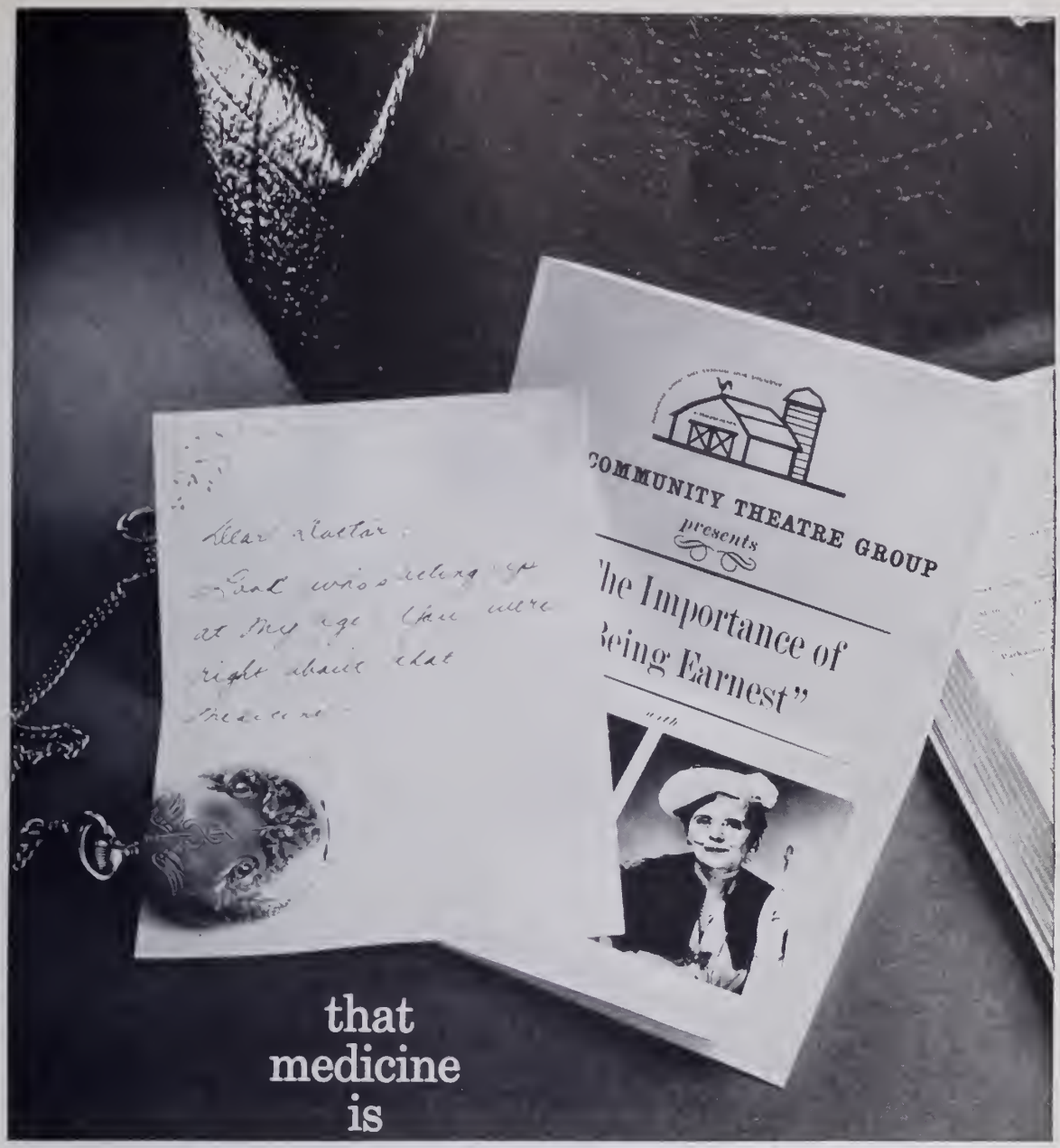
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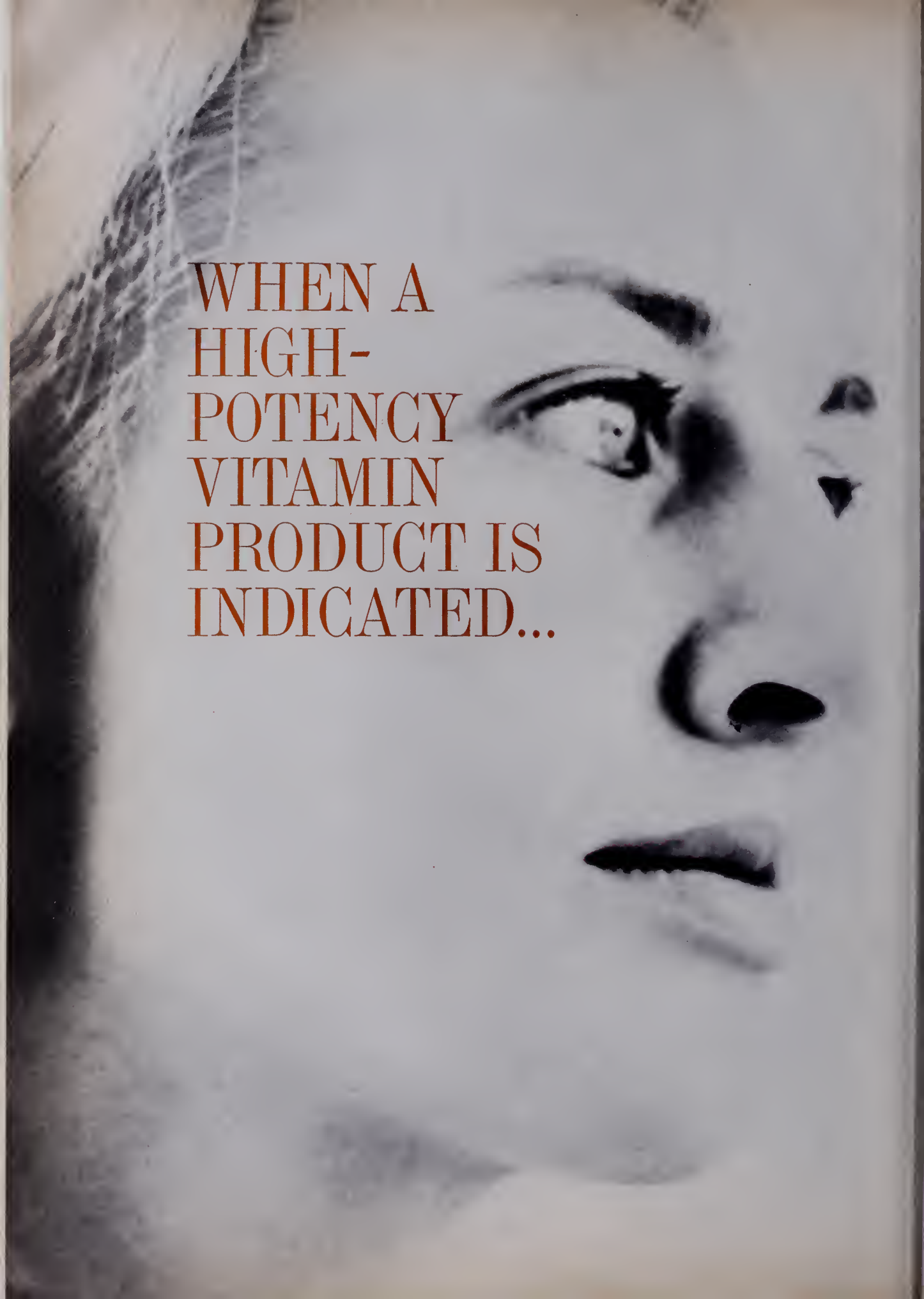
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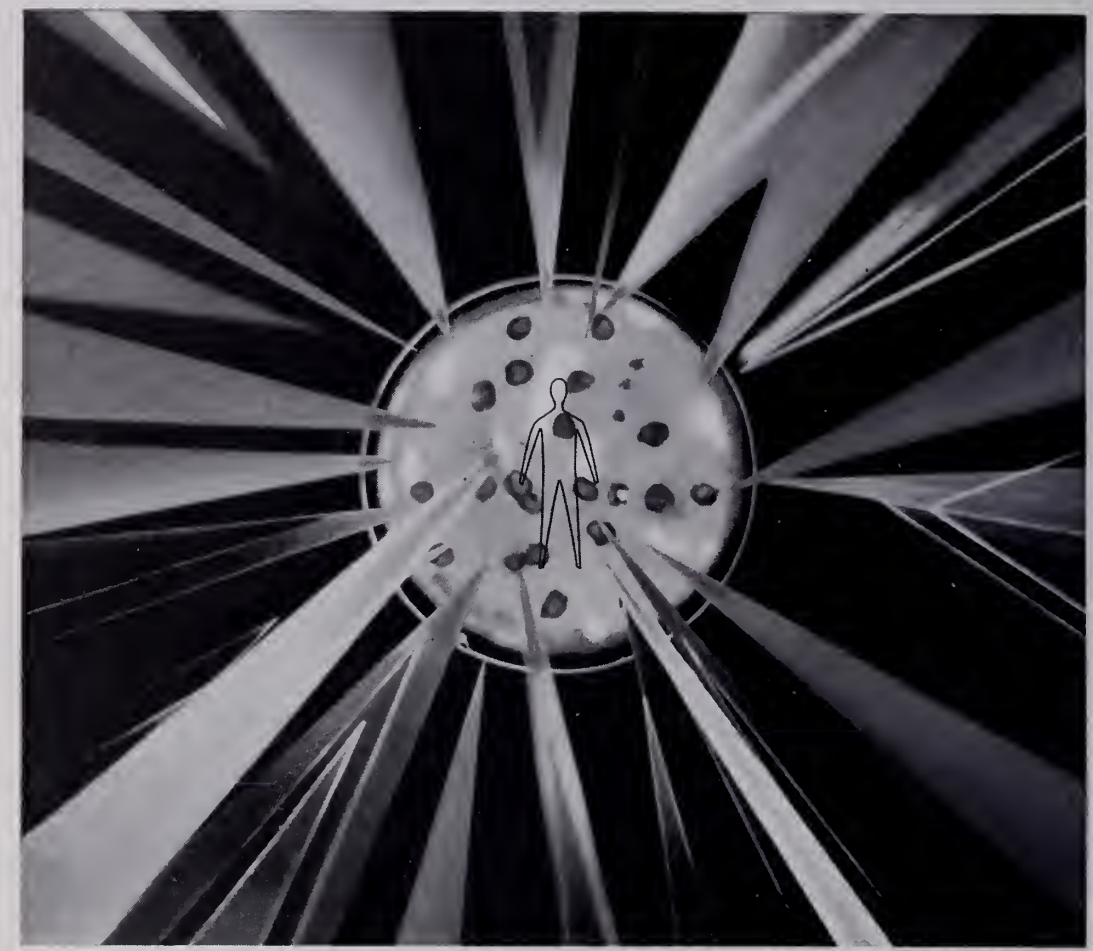
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1. Clark, T. E., and Jochem, G. G.: Angiology 11:361 (Aug.) 1960.

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The Penn Harris Hotel

JACKSONVILLE, FLORIDA
Sunday, November 12, 1961
The Robert Meyer Hotel

ALLENTOWN, PENNSYLVANIA
Wednesday, November 15, 1961
The Americus Hotel

SOMERVILLE, NEW JERSEY
Thursday, November 16, 1961
The Far Hills Inn

NASHVILLE, TENNESSEE
Wednesday, November 29, 1961
Meharry Medical College

EDINBURG, TEXAS
Saturday, December 2, 1961
The Echo Motor Hotel

WACO, TEXAS
Sunday, December 10, 1961
The Holiday Inn

Plans for 1962 already include the following Symposia, with more being arranged:

MOBILE, ALABAMA
Friday, January 5, 1962
The Admiral Semmes Hotel

ST. PAUL, MINNESOTA
January 8, 1962
The Hotel Lowry

PORTLAND, OREGON
Wednesday, January 24, 1962
The Sheraton-Portland Hotel

ANCHORAGE, ALASKA
Saturday, February 24, 1962
The Westward Hotel

WINCHESTER, VIRGINIA
Wednesday, March 14, 1962
The Lee-Jackson Hotel

SIOUX CITY, IOWA
Thursday, March 15, 1962
The Sheraton-Martin Hotel

SPOKANE, WASHINGTON
Saturday, June 2, 1962
The Davenport Hotel

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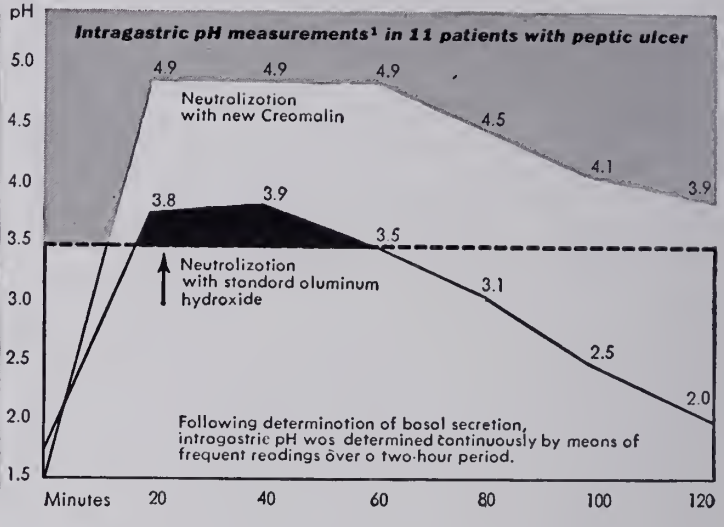
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References: 1. Schwartz, I. R.: *Current Therap. Res.* 3:29, Feb., 1961. 2. Beekman, S. M.: *J. Am. Pharm. A.* (Scient. Ed.) 49:191, April, 1960. 3. Hinkel, E. T., Jr.; Fisher, M. P., and Tainter, M. L.: *J. Am. Pharm. A.* (Scient. Ed.) 48:381, July, 1959. 4. Data in the files of the Department of Medical Research, Winthrop Laboratories. 5. Hinkel, E. T., Jr.; Fisher, M. P., and Tainter, M. L.: *J. Am. Pharm. A.* (Scient. Ed.) 48:384, July, 1959.

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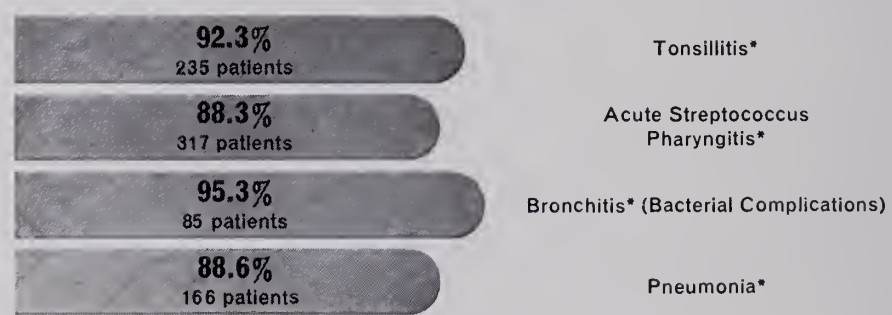
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NOVEMBER, 1961

Published Monthly
1430 Tulane Avenue, New Orleans 12, La.

Acromion Resection For Persistent Painful Shoulder

• The relief of the patient who has had many types of treatment for painful shoulder, but shows no improvement over the years, is considered in this paper.

ROBERT M. ROSE, M. D.
New Orleans

THERE have been a number of articles written on the painful shoulder and each of us has evolved our pet method of treatment, which we like because it gives us good results. For varying periods I have used, on new, acute cases, local novocaine infiltration; two needle washing with novocaine and or saline; stellate blocks; relaxed circumduction exercises, usually with codeine and aspirin; one of the cortisone derivatives by mouth; hydrocortisone injections; and even exposure to deep x-ray. Regardless of which method of treatment I used, my results, percentage-wise averaged about the same. About half of the patients got over their acute pain in one to three days and were completely over their trouble in about three weeks. About half of the remainder took about three weeks to get over their acute pain and about three months to recover to where they forgot about their shoulder.

The remaining twenty-five per cent dragged on longer, eventually, with the exception of one or two, recovering from their pain, they usually also retained some slight residual limitation of shoulder motion.

One or two out of every hundred did not get well and were the problem cases. They had usually had several variations of every known type of treatment over periods of years and were still having severe recurrent bouts of pain as well as marked, to moderate, limitation of shoulder motion. It is this patient whose treatment I propose to suggest.

Treatment

First, let us do a little thinking about this condition, the painful shoulder. Let us take up the treatment first. One fact is significant and outstanding. In the initial acute case, results of a series show that it matters not whether you, I, or Dr. X treats the patient and it also matters not how we treat the patients or with what we treat them. The majority will get well, usually within days or weeks. The only logical conclusion from this is that the condition's acute phase is self-

* Presented at the Eightieth Annual Meeting of the Louisiana State Medical Society, Baton Rouge, Louisiana, May 4, 1960.

limited in most cases and that there is no specific treatment, for the majority get well no matter what we do.

With those who drag on a bit longer, one fact becomes self-evident. It is important that the patient exercise his shoulder or it "freezes" and pain persists. Those individuals who exercise regularly and frequently get better more quickly than those who do not. We also find that injections and drugs may help the patient's pain for brief periods, but it is his or her own exercise that eventually brings back function of the shoulder and freedom from pain.

Then we have the one or two who just do not get well, no matter what. What logically, can be done for them? In that word "logic" lies, I think, the key to the situation. Effective treatment lies in knowing exactly what is wrong. The correcting step is then obvious.

We are usually wrong in our thinking and initial approach to these patients. "Oh," we say," you have Bursitis." "Bursitis", what a nice pat word that is. It rolls so nicely off of the tongue. And then, of course, it is popular. Everyone has heard of it. There have been articles in newspapers, magazines, and I even ran across one in which "Bursitis" was referred to as the weekend do-it-yourselfer's curse and attributed the cause to overstraining muscles unaccustomed to harsh, physical work. They were right enough, but weren't using the right name. "Bursitis" is not the term describing a muscle strain. "Bursitis" is usually understood to mean a "subdeltoid bursitis" or inflammatory reaction in a bursa beneath the subdeltoid muscle. This can happen, and out of the many hundreds of patients whom I have treated, I have seen one such case. He was readily cured in five minutes with novocaine washing. But, I have only seen that one case. True, "subdeltoid bursitis" is rare.

Cause

Indeed, in these cases, the subdeltoid bursa is not involved at all. These painful shoulder cases are actually cases of tendinitis of the insertion of the supraspinatus tendon and sometimes even involve the insertion of the infraspinatus or teres minor muscles to the greater tuberosity of the humerus, these muscles are the so-called "cuff" muscles. What basically happens is that there have been either macroscopic or microscopic tears of the tendon fibers at, or near, to the point of insertion of these muscles. At this point, let's get back to the popular magazine again. This is not just an affliction of the weekend worker. The majority of the patients whom we see have not done any physical straining at all, yet they have the same pain and physical findings. There is one thing that they have done, though. They have slept with their head resting on their arm or with their arm abducted so that their elbow is higher than their shoulder. Now when the humerus is abducted, its greater tuberosity and the attached muscles are jammed up under the outer edge of the acromial process. What do you think would happen to your finger if you screwed a clamp across it for several hours? The blood would have been squeezed out of the tissues, the pressure points would become necrotic and eventually slough out. There would also be some peripheral repair. The same process, or a minor variation of it goes on where the "cuff muscles" attach to the greater tuberosity. Pressure over this tendinous point results in degrees of avascularity of the tendon, subsequent weakening and possibly degrees of tear.

We also see another phenomenon, the deposition of calcium at the site of injury and if we look carefully, we find that it is always in the same place, and that is just over the greater tuberosity of the humerus, at the point of tendinous attachment of the "cuff muscles" and not in the subdeltoid or subacromial bursa. This, then, is what we are treating; degeneration, with or without partial or complete tears of the attachment of one or all of the cuff muscles to the greater tuberosity of the humerus, with or without the deposition of calcium. We are treating *tendinitis* and not *bursitis* and if we keep this fact

clearly in mind we will have fewer patients "who just don't get well no matter what".

Is there any bursa possibly involved in this process at all? The answer is yes. There is a subacromial bursa, although most people who use the phrase "bursitis" have never heard of it. It lies between the attachment of the cuff muscles and the acromial process and it can be secondarily involved by the reaction between the injured and or degenerated tendinous attachment of the cuff muscles, since it lies directly between the involved tendons and the acromial process. But its involvement, if any, is secondary and is not primary. The primary disease process is not a subacromial bursitis. It is a *tendinitis* of the insertion of the cuff muscles.

Let us consider some other known facts. Patients who have painful shoulders may or may not have x-ray evidence of calcium deposition; and, if we sequentially x-ray the calcium deposits of those who have them, we find that the deposits may go away or may enlarge, and whichever happens, there is again, no pain relationship to what is happening. We see x-ray evidence of calcium deposits in the cuff muscle tendons in people who have never had shoulder pain and who have no limitation of motion, and so it is obvious that there is really no direct relationship between the presence or absence of pain, the presence or absence of shoulder "freezing" or the presence or absence of calcium.

Pain

Where, then, does the pain come from? Is it from the tendon tear? The answer is no. There is really very little pain associated with a tendon tear. This is amply shown by those who tear the long head of their biceps tendon. They do not complain of pain although they have one of the most direct and complete tendon tears that a person can sustain. They complain of muscle weakness.

The pain comes, I believe from swelling within the tendon itself. Because of intrinsic tendon swelling, tension of the tendon results, and this is very painful. Since abduction of the humerus jams the tendon of the cuff muscle up under the acromion, this pressure is rigidly avoided by the patient. This also explains why some people get well so quickly. Their swollen, painful tendon unswells, or goes down relatively quickly. Their pain disappears and they begin using their shoulders before any of troublesome sequale of prolonged disuse set in.

It also explains the patient who gets well, but not too quickly. His swelling just takes longer to subside, and so, in the long run, he has a little more to work out.

Also explained is the lack of relationship between the x-ray evidence of the presence of, or absence of, calcium depositions, and pain. If the calcium deposition occurs with tendon swelling, there will be pain and if it occurs without tendon swelling, pain will not exist.

Surgical Treatment

This also gives us a clue to the handling of the patient who just does not get well, or who has persistently recurring attacks. Most of them are aggravating their disability, unknowingly, by the way they sleep at night. They may be abducting their humeri, reproducing their subacromial pressure over and over again. Then, too, they may have another factor, and that is the presence of adhesions, a "frozen" shoulder. Prolonged tendinitis is very irritating to the surrounding tissues and numerous adhesions are formed, usually to the nearby acromial process, this serving to anchor the shoulder against motion. Eventually, they arrive at such a state that "something has got to be done". That something usually follows one of several paths.

Some doctors believe in repeated hydrocortisone injections, in spite of the fact that these injections frequently aggravate pain. This pain aggravation is the result, I believe, of injecting directly into the tendon, increasing swelling. I do not use cortisone injections and I have had a satisfying number of patients desert to me from those who do. Those patients who do get well under this regimen do so be-

cause of something else that accompanies the injections, and that is vigorously encouraged physiotherapy, progressing to active exercises. It is that active exercise that does the job.

There are some doctors who believe in passive "breaking up the adhesions while the patient is under anaesthesia", again, with or without cortisone. In my experience, some patients are helped by this process, although their pain when the anaesthetic wears off is usually memorable. Again what really gets them well is the intensive physiotherapy used as an aftermath of the manipulation. A number of them, however, are worse after manipulation, and personally, I do not like and do not recommend methods of treatment which may result in the patient being worse, not better.

There are some who are sold on surgically "scraping out the calcium", usually, again, followed by an aftermath of intensive physiotherapy. Some patients have been helped by this process, and I have seen a number who were not helped. That is why I do not recommend this. Experience has taught me not to gamble or take chances where the treatment of patients is concerned and that is why I recommend total resection of the acromial process for the patient with a painful, "frozen" shoulder, who has had three to seven years of continuing or recurrent painful attacks and who has had just about every known treatment under the sun and who is still not well. I did not originate this treatment. I have seen it improperly done by some who did not understand it, and who got correspondingly poor results. But the trick is simple enough, and consists in *complete* resection of the acromial process and not part of its outer margin.

Technique

In performing the operation, a curved incision about three inches long is made over the top of the outer part of the shoulder, midway between the inner and outer margins of the acromion and paralleling the attachment of the deltoid muscle. The acromio-clavicular joint is located and sectioned, front and back, and then, with a sharp thin osteotome, the acromial process is sectioned in line with the acromio-clavicular joint. The inner end of the sectioned acromium is then pried up and the underlying adhesions between its undersurface and the insertion of the cuff muscles separated.

A sub-acromial bursa is sometimes found. The attachments of the deltoid muscle are then separated from the outer edge of the acromion, cutting very close to the bone in order to preserve some tendinous fibers. This allows removal of the acromion and affords, incidentally, a marvellous view of the top of the shoulder. The edge of the deltoid is then attached to the outer end of the sectioned capsule of the acrimio-clavicular joint and to the outer margin of the spine of the scapula. It is necessary to sort of "take up slack" in the origin of the muscle in doing this attaching. That portion of the muscle attaching to the capsule of the acromio-clavicular joint is easily fastened securely, that portion attaching to the bone being less easily done and less secure. I usually drill about six small holes through the outer cortex of the outer margin of the spine of the scapula using a dental burr in a hand drill, and then fasten the muscle with three mattress sutures. The surgical area is usually quite vascular, this being best controlled with a combined suction-coagulation tip. The skin is then closed normally. If fixation of the deltoid muscle has been secure, active use of the shoulder may be started in three to five days. If deltoid fixation is not secure, the patient should be kept on his back in bed with the arm in lateral traction for about three weeks, or an "airplane" splint may be applied.

Every patient on whom I have done this operation has had complete relief of pain and has regained full useful motion of their shoulder, they have been very grateful and that is why I like it. The contour of their shoulder is inconspicuously affected, and function is excellent.

Discussion

Dr. Alvin Stander (Baton Rouge): The persistent painful shoulder represents a challenge to those of us who treat orthopedic conditions.

Adhesive capsulitis is the result of many etiological factors: Recurrent bursitis, trauma, Colles' fracture, angina pectoris or any other condition that might discourage motion in the shoulder joint.

The patient is usually not free of shoulder pain until he has regained a useful and almost complete range of motion in the joint. Injections into the shoulder should be limited to the acute phases of this condition.

Active and passive exercises have proven useful in a vast majority of cases. The treatment may have to be initiated under analgesics and the course is usually prolonged—some times longer than the patient wishes to continue.

The author has presented a rather radical procedure but he has utilized it in those individuals who have not responded to the usual regime of therapy. He states that his patients are those of three to seven years duration of shoulder pain. If these patients are relieved of their pain and regain a useful range of motion in the shoulder joint, this is certainly a salvage procedure.

I would like to ask Doctor Rose if he would consider this procedure in a moderately young (30 to 40) age group, or in the laborer, or a compensation case?

Cause of Dark Complexion of Chicago Ladies

Peoria Medical Monthly: A private letter from a valued correspondent contains the following, which is too good to be lost.

"I see Dr. Byford has greatly improved his work on 'Diseases of Women.' In the first edition 'nitrate of silver and its substitutes' played a very important part. When I lived in [redacted] a lady friend visited Chicago. On her return, I met her in the company of several ladies, who brought up the subject of complexion. The lady was asked if she had noticed the well known fact that Chicago ladies were less fair than their Eastern sisters, and that Eastern ladies who went to Chicago soon lost their complexion, and if she thought the climate was the cause? The lady replied that she had noticed the fact and thought the climate might have something to do with it, but she had given the subject considerable attention, and had concluded that Dr. Byford treated female diseases exclusively with nitrate of silver. I judge, therefore, from his last edition that the complexion of Chicago ladies will not improve.—*Michigan Med. News.* New Orleans M. & S. J. 10:449 (Dec.) 1882

Muscle Relaxants, Uses and Safeguards

• The many uses of these drugs in surgery and other procedures are gone into, together with their indications, contraindications and effects.

ROBERT H. HANSEN, M. D.
Baton Rouge

IN any discussion of muscle relaxants, one must consider the chemistry, physiology, and the pharmacology of the drugs that are used. All currently used muscle relaxants are quarternary ammonium compounds.[1]

They have been classified [2] as depolarizers, such as succinylcholine (Anectine®) and decamethonium (Syncurine®) and non-depolarizers, such as curare and curare-like compounds as d-tubo curare (Tubarine®), gallamine (Flaxedil®), and laudexium (Laudolissin®). Both the depolarizing and the non-depolarizing drugs compete with acetylcholine at the cholinergic receptors of the neuromuscular end-plate. The non-depolarizers such as curare act by prevention of access of acetylcholine to the receptors. The depolarizers cause depolarization of the neuromuscular end-plate and render the muscle fiber insensitive to subsequent stimuli.

Muscle relaxants influence the respiratory system by paralysis of the respiratory muscles, and rarely, bronchoconstriction.[3] They may affect the circulatory system by a decrease or an increase in the blood pressure or changes in the pulse rate.[4]

Excretion is partly or wholly unchanged in the urine. Succinylcholine is hydrolyzed by the plasma cholinesterase and only 5 to 15 per cent is excreted in the urine.[5]

Uses

Use of muscle relaxants can be dated back to 1912,[6] when Laewen of Leipzig first used a crude form of curare to produce muscular relaxation. Griffith and Johnson,[7] in 1942, used Intocostin® (a curare drug) first for relaxation in anesthesia. Since then, the muscle relaxants have been used in many procedures, surgical and otherwise, in which they have been helpful.

In abdominal surgery lies their greatest usefulness, in that the anesthetist can relax the abdominal muscles without having to place the patient in third or fourth plane anesthesia. One can carry the patient in plane one anesthesia [8] and use the muscle relaxant as needed to produce adequate relaxation of abdominal muscles, so that surgery in a quiet abdomen is greatly facilitated.

They have been used in lung surgery, cardiac surgery, and many types of surgery where an open chest is mandatory.[9, 10] In such cases the control of respiration is facilitated, and the patient is carried in a lighter plane of anesthesia and the anesthetist may have his patient awake quicker after the end of the operation.[11] It has also been noted and pointed out by Beecher [12] in a comparison of ether versus thiopental—N_{20}-O_2—succinylcholine technique in chest surgery that with the muscle relaxant technique it is easier to aspirate obstructing secretions that may develop in the bronchial tree and that cough and troublesome variations of respiratory force and rate, and motion in the thorax are better controlled.

Muscle relaxants are used to make endotracheal intubation relatively easy and atraumatic. A number of endoscopic procedures [13, 14] such as laryngoscopy, laryngeal suspension, bronchoscopy, and esophagoscopy, where it has lessened the necessity for the use of deep general anesthesia, are greatly facilitated. They are used in the treatment of severe laryngospasm complicating anesthesia. Another use of a muscle relaxant, in this case, succinylcholine, is in bronchospasm [15] and bucking

during general anesthesia and surgery. Succinylcholine presumably has no effect on the smooth muscles of the bronchial tree, although Volpitto and Smith [15] think it may have some action there. The chest wall relaxation so produced facilitates the passage of gases and the accomplishment of adequate tracheobronchial toilet.

In electroshock therapy [16] the relaxants have been a boon. They have been most beneficial in preventing the fractures that occasionally complicate this procedure. Other uses include, at one time or another, cases of tetanus;[17, 18] manipulative procedures, as in fractures and dislocations; supplementation in spinal anesthesia as it is wearing off; and a test for myasthenia gravis.

Safeguards in Management of Anesthesia

In the case of muscle relaxants, the safeguards will be emphasized under the following topics: (1) management of anesthesia with the relaxants; (2) dosage and administration; (3) indications and contra-indications; (4) drugs used in combating or preventing complications.

Three cardinal principles evolve in the management of anesthesia with muscle relaxants: (1) Maintenance of a free airway by holding the chin up, inserting an oral or nasal airway, or performing an intubation is paramount to the management. This procedure demands that the equipment be ready on the machine. (2) Ability to provide artificial ventilation, which means that a closed system anesthesia apparatus be available, with a well-fitting mask or a direct connection to an endotracheal tube. (3) Performance of adequate suctioning with a rubber suction catheter immediately available is mandatory.

There are two types of ventilation that may be used on the patient under the influence of muscle relaxants:

(1) The apneic patient,[19] in whom the respiratory muscles are completely paralyzed, the respiration is controlled at thirty to forty per minute, and the adequacy of the tidal volume is judged by the expansion of the patient's chest or lungs. The squeeze of the breathing bag should be short and rather vigorous followed by a ventilatory pause. A ratio of 1:2 between the active and the passive phases will keep a mean low pressure in the airway and will interfere least with the venous return.

(2) The patient with assisted respiration where there is more safety. Foldes [2] states that when this method is used there is no known contraindication to muscle relaxants. He suggests that the patient initiate each inspiration, then the anesthetist should follow it up with a short vigorous assisting squeeze on the breathing bag. The respiratory rate should be between sixteen to twenty per minute. A tidal exchange of 500 to 700 cc. with a minute volume of 6 to 10 liters is considered adequate.[2] Recently ventimeters and minute volume meters,[20] which can be attached to the anesthesia machine and which show the patient's exchange, have been used.

Dosage

Muscle relaxants can be administered either intravenously or intramuscularly. The intravenous route is the choice route. A safeguard in administration is to administer just enough relaxant for a subapneic patient with additions of relaxant just before the skin incision, again if necessary before the abdomen is explored, and further additions only as required for relaxation. It is advisable to administer curare as d-tubo®, tubarine®, or metubine® in a test dose of 1 to 3 mgm. to observe its neuromuscular effect. If no untoward reaction occurs, the anesthetist may then proceed after one and one-half minutes with repeated single doses. The doses of curare preparations must take into consideration the type of anesthetic agent used as it may act synergistically with some agents like ether.

An example of this synergism is as follows: d-tubo® with pentothal®, N_2O requires an initial dose of six to fifteen mgm., whereas with cyclopropane a dose of 4 to 12 mgm. is sufficient. With ether a still further reduction in dosage to 3 to 6 mgm. will suffice.[2] For smaller patients

the initial dose may be adjusted downward, using 0.5 mgm. for each ten pounds of body weight. Fractional doses may be given with pentothal®—2 to 6 mgm.; cyclopropane—2 to 5 mgm.; and ether—1 to 2 mgm. Succinylcholine is administered in a single dose (as for intubation), in repeated single doses, or in a continuous drip in a 0.1 or 0.2 per cent solution in glucose or saline. A test dose is not indicated with succinylcholine, and a single dose for intubation varies with sex and weight from 40 to 100 mgm. It is impossible to give any standards for the dose required in continuous use, for it varies immensely with the patient, the type of surgery, and the length of operation. This variance is one paramount reason why the patient should be carried on assisted rather than on controlled respiration. Ether is not synergistic with succinylcholine. Succinylcholine is the drug of choice when the anesthetist uses fluothane®. Curare in large doses should not be used with fluothane on account of untoward reactions such as severe hypotensive episodes. Mild to moderate doses of curare intermittently are better.

The intramuscular route is used for both succinylcholine and curare drugs. A precaution here is that the intramuscular injection prolongs the duration of action of the relaxant three or four fold. As reported by Beldavs [21] on infants and children, 1.5 to 2 mgm. per pound of body weight in deep intramuscular injection for endotracheal intubation produces a maximum effect with succinylcholine in two to three minutes with full recovery of respiration within twenty-five minutes. Curare drugs have also been used intramuscularly in infants and children in doses of 0.15 mgm./Kg. to 0.4 mgm./Kg.

Indications and Contraindications

In the safeguards it is important to note that there are various situations in which the relaxant drugs are absolutely or relatively contraindicated. Subsequently the dose is diminished, or the relaxant should not be used at all. This situation includes the patients with so-called altered sensitivity.[2] Absolute contraindications are untrained anesthetists, lack of equipment necessary for artificial respiration, and myasthenia gravis. Relative contraindications include shock (*e.g.* extensive trauma or hemorrhage); marked respiratory obstruction, depression, or failure; and liver or renal disease in advanced stages.

Also, great caution is necessary where the plasma cholinesterase is known or suspected to be low as in advanced liver disease, hypoproteinemia, severe anemia, cachexia due to malnutrition, malignancy, and chronic infection, and organo-phosphorus insecticide poisoning. In such cases the doses of the relaxant is reduced one-half to one-third. In the aged altered sensitivity may be noted, and the anesthetist should reduce the dose of relaxant two-thirds to one-half of the adult dose. Assisted respiration rather than controlled is better here because of the greater tendency for a respiratory deficiency or prolonged apnea to occur. In asthmatics or people with a marked allergic history, ether and a non-depolarizer drug such as gallamine may be beneficial.

In cardiovascular disease, both curare and succinycholine have been used; however, many prefer succinylcholine on account of the lack of a histamine reaction which can cause severe hypotension. Also, succinylcholine is quicker acting and may prevent bucking or straining faster.

In fluid and electrolyte imbalance, dehydration, and potassium deficiency, there is an increased sensitivity to relaxants. So the dosage has to be adjusted accordingly. The best procedure is to use succinylcholine in a 0.1 per cent solution continuous drip or to reduce the dosage of curare to one-fourth to one-half dose and for the anesthetist to give small repeated doses (curare).

In liver disease an increased sensitivity to succinylcholine may be noted. The relaxant (succinylcholine) should be given in a 0.1 per cent drip with assisted respiration. In kidney disease succinylcholine in reduced dosage seems to be the relaxant of choice for reasons previously stated.

In new-born infants and in children,

there is an increased sensitivity to nondepolarizing relaxants and a decreased sensitivity toward depolarizing drugs. Succinylcholine will prove to be the better drug here with doses of 0.5 to 0.8 mgm./Kg. Foldes [2] has recommended 1 mgm. to 2 mgm./Kg.

In myasthenia gravis [22] the pathological physiology is not known with any certainty. Myasthenic muscle groups are hypersensitive to relaxant compounds blocking by impedance of depolarization, while they show a high degree of resistance to blocks by persistent depolarization. Furthermore, blocks by persistent depolarization may in myasthenic muscle groups act exclusively by impedance of depolarization. For these reasons the use of any muscle relaxant is contraindicated. On account of the existence of undiagnosed mild or latent cases, the importance of a small, initial test dose is obvious when any relaxant, blocking by impedance of depolarization, is administered.

Complications

The complications associated with muscle relaxants may be due to the relaxant [23] *per se* or the effect of the physiologic trespass on respiration. It has been noted that some muscle relaxants, as curare and curare-like drugs, rarely exert certain histamine-like actions [24] in man. This action may be due to the release of histamine or histamine-like substances from skeletal muscles, although this is controversial. This occurrence may account for symptoms such as hypotension and bronchospasm.[3] This hypotension (caused by ganglionic [25] blocking action and/or histamine release) may be treated with vasopressors. Immediate relief of the bronchospasm may be obtained by the intravenous injection of 0.1 to 0.2 mgm. of epinephrine diluted to 5 cc. Hydrocortisone [26] intravenously also offers the possibility of effective therapy without side effects. Too, aminophylline has been used especially in patients under cyclopropane anesthesia. With this anesthetic drug, epinephrine is never used by any route of administration. Hypertension occasionally may result from the administration of succinylcholine possibly due to stimulation of the sympathetic ganglia.[25] No treatment is usually needed. Postoperative muscular pains and stiffness [27] have occasionally been noted following the use of succinylcholine. Bed rest for one to two days is the only treatment necessary.

The respiratory complications following the use of relaxants may vary from respiratory deficiency to apnea. The anesthetist must decide whether the respiratory complications arise centrally as in the brain or peripherally from some defect in neuromuscular transmission.[28] Usually the respiratory deficiency brought about by a relaxant can be distinguished from that due to depressant drugs. The relaxant-type respiratory deficiency is characterized by a decrease in tidal exchange, an accentuation of diaphragmatic action, a jerky respiration, a loss of effective intercostal function, and an inclusion of the accessory muscles (tracheal tug). The rate is usually elevated but may be normal. This is differentiated from the narcotic depression (the slow rate of respiration) and from the barbiturate depression (the shallow but unlabored respiratory efforts of the patient).

The causes of respiratory deficiency or apnea are many: [29-33] Too deep general anesthesia, errors in the technique of controlled respiration causing CO_2 accumulation with lowering of the *p*H, acapnea, exhaustion of the Hering-Breuer reflex or out of phase impulses reaching the respiratory center, low serum potassium, failure of redistribution of the relaxant from the end-plate into the inactive tissue depots and plasma, altered response of the end-plate to succinylcholine, slow recovery of the muscle fiber, low plasma cholinesterase, and the breath-holding reflex due to reflex stimulation from the endotracheal tube.

To prevent these respiratory complications, the anesthetist should (1) follow the advice given previously for the use of relaxants in patients with altered sensitivity;[2] (2) not administer the relaxant to patients already apneic from central de-

pressant drugs; (3) not use excessive single doses of either curare or succinylcholine; (4) give just enough drug for desired relaxation in long procedures; (5) give, when and if controlled respiration is used, only the medium dose, discontinue the drug, whether by single injection or drip, and await the return of the first signs of respiration before proceding further with more relaxant; (6) decrease the possibility of breath-holding by spraying the pharynx, trachea, and cords; (7) assist respiration at fourteen to twenty per minute with a respiratory minute volume of six to ten liters per minute and a tidal exchange of 500 to 800 cc.;[2] (8) avoid hyperventilation as hypocapnea and exhaustion of the Hering-Breuer reflexes may cause an apnea to occur and persist long after other causes have disappeared.

Treatment of Respiratory Complications

In the treatment of the respiratory complications, the maxim that the only sure way to avoid a prolonged postoperative apnea is to prevent its development during anesthesia and to act immediately should it develop remains true. It applies equally to the non-depolarizing long-lasting muscle relaxants such as curare and to short acting depolarizing relaxants as succinylcholine. The treatment of the respiratory deficiency or apnea will depend on the underlying mechanism. Artificial respiration is the mainstay of any treatment for respiratory deficiency or apnea.

During the operation, the anesthetist should discontinue the relaxant drug and ascertain whether the respiratory deficiency or apnea is due to too deep general anesthesia, too light general anesthesia, or excessive doses of the relaxant. When the trouble is due to the relaxant, the patient's lungs inflate easily, and relaxation in the field of surgery will be excellent. Discontinuance of the relaxant is imperative. Apnea, due to too light anesthesia, such as by breath-holding, is manifest by difficulty in inflating the lungs, by possible elevation of the blood pressure and pulse, and by poor muscular relaxation. In this situation, one must deepen the anesthesia because the relaxant is not at fault. When central depression is the cause of the respiratory deficiency, inflation of the lungs is difficult.

Often painful stimuli from the operative area will initiate irregular, shallow respiration in the poorly relaxed patient. If apnea is from hypocapnea, relaxation is poor and the blood pressure and pulse are usually normal or decreased. When there is central depression, increase the relaxant according to the relaxation needed in the operative area. Do not administer any more depressant drugs until respiration returns. If apnea has been produced by excessive doses of narcotics and analgesics, the administration of 5 to 10 mgm. of nalorphine or 1 to 2 mgm. of levallorphan will reestablish spontaneous respiration within two to three minutes, in many cases.[2, 29]

In the treatment of postoperative respiratory deficiency or apnea, the specific antidote for the curare and curare-like drugs is prostigmine® or neostigmine and edrophonium or tensilon®. These drugs can also be used in occasional cases of succinylcholine apnea of long duration where other measures have failed. Fresh whole blood has been used in succinylcholine apneas with occasional success. There is some evidence, as first pronounced by Churchill-Davidson,[34] that in the prolonged administration of succinylcholine there is altered sensitivity of the neuromuscular end-plate and there may be a dual block in which first a depolarizing block occurs and later is followed by a non-depolarizing block.

Let us consider the drugs, tensilon® and prostigmine®.[35] The pharmacological action of tensilon® (edrophonium chloride) resembles acetylcholine, but this action is more prominent on skeletal muscles than on the ganglia and postganglionic parasympathetic endings. Tensilon® also possesses moderate anticholinesterase activity. Although its muscarinic effect is less pronounced than acetylcholine, it is still considered safe to give atropine before its administration. However, some believe

atropine is not necessary. The dosage of tensilon® is repeated single doses of five to ten mgm. until effect. The action of tensilon® is transient, since it is not more than five minutes duration. Total dosage should not exceed 30 to 40 mgm., since overdose can result in a block by persistent depolarization.

If spontaneous respiration is restored after tensilon and if the patient later becomes apneic, prostigmine® 1 to 1.5 mgm. preceded by atropine in the same preoperative dosage may be given. Prostigmine® belongs to the so-called cholinesterase inhibitors and acts by preserving acetylcholine from rapid hydrolysis. Prostigmine® should ordinarily be given in repeated doses of 1 mgm. It is imperative to give atropine intravenously three to five minutes before the prostigmine®. Between each dose of prostigmine®, the drug should be allowed time to act (two to four minutes), and the respiration and pulse should be closely watched. The maximum dosage of prostigmine® should not exceed 2.5 to 3 mgm. It is hopeful that some respiratory effort is made by the patient or some motion of the breathing bag is made before the use of any of these drugs. This is particularly important when the anesthetist uses prostigmine® or tensilon®.

It has been shown by Hunter[36] that there are some patients who are resistant to prostigmine® and that prostigmine® in itself in large doses can cause neuromuscular block. If the anesthetist assists the patient's respiration instead of controlling it and if a respiratory deficiency develops, then the anesthetist has some respiratory effort as a basis on which to begin the treatment of the deficiency.

Other drugs used in the treatment of respiratory deficiency include the use of a mild diuretic as 50 cc. of 50 per cent glucose or 500 cc. of 10 percent glucose in patients with a decreased urinary output or in patients to whom large doses of succinylcholine have been given by continuous intravenous drip. The possibility of accumulation of succinylmonocholine[37] must be considered in such a situation. Since both succinylcholine and succinylmonocholine are excreted rapidly through the kidneys, once that urinary excretion has been reestablished, the respiratory deficiency or apnea caused by accumulation of succinylmonocholine will be relieved.

In patients with preoperative potassium deficiency, there may be a tendency to depressed respiration. In those cases intravenous 0.3 per cent solution of potassium chloride at eighty to one hundred drops per minute may be beneficial.

Summary

The uses of muscle relaxants have been beneficial in many types of surgery including abdominal, chest, and cardiac surgery. Their advantages are also manifest in endotracheal intubation and endoscopic procedures. In electroshock therapy they have been a boon.

The safeguards have been discussed under (1) management of anesthesia with relaxants, (2) dosage and administration, (3) indications and contraindications, (4) drugs used in combating and preventing complications.

The cardinal principles in the management of anesthesia with relaxants have been enumerated.

Dosage and administration is mentioned with emphasis on the synergism that occurs between relaxants and anesthetic agents.

Indications and contraindications are emphasized with reference to the type of relaxant best suited in a given situation.

The complications associated with muscle relaxants may be due to the relaxant *per se* or the effect of the physiologic trespass on respiration. These complications and their causes are listed. The various drugs used to combat or prevent untoward situations are gone into in detail. Especial emphasis is placed on respiratory deficiency and apnea. Artificial respiration is the mainstay of any treatment for respiratory deficiency or apnea.

References

1. Paton, W. D. M. and Zaimis, E. J.: The methonium compounds. Pharmacol. Rev., 4:219, 1952.

2. Foldes, F. F.: Muscle Relaxants in Anesthesiology. Springfield, Illinois, Charles C Thomas, Publisher, 1957.

3. Landmesser, C. M.: Study of bronchoconstrictor

and hypoteusive actions of curarizing drugs, Anesthesiology 8:506, 1947.

4. Johnstone, M.: Relaxants and the human cardiovascular system, Anaesthesia 10:122 (April) 1955.

5. Kalow, Werner: The distributions, destruction, and elimination of muscle relaxants, Anesthesiology 20:505, 1959.

6. Lee, J. Alfred: A Synopsis of Anesthesia, Baltimore, Maryland, Williams & Wilkins Co., 1953, p. 319.

7. Griffith, H. R. and Johnson, G. E.: The use of curare in general anesthesia, Anesthesiology 3:418, 1942.

8. Little, D. M. Jr., and Stephen, C. R.: Modern balanced anesthesia, concept, Anesthesiology, 15:246, 1954.

9. Schotz, S. Bloom, S. S., and Helmworth, F. W.: Succinylcholine and inhalation analgesia for major cardiac and pulmonary surgery, J.A.M.A. 163:345, 1957.

10. Santos, Crisostomo C., Sweet, Robert B.: Balanced analgesia for the poor-risk patient undergoing thoracic surgery, J.A.M.A. 168:1977, 1958.

11. Hershey, S. G.: Zweibach, B. W., and Rovenstine, E. A.: Effects of depth of anesthesia on behavior of peripheral vascular bed, Anesthesiology 14:245, 1953.

12. Beecher, Henry K.: A comparison of two systems of anesthesia for thoracic surgery, ether versus thiopental-succinylcholine, J. Thoracic Surgery, 32:419, 1956.

13. Alver, E. C. and Leek, J. H.: Induced paralysis for endoscopic procedures, A.M.A. Arch. Otolaryngol. 62: 399, 1955.

14. Jooste, K. H.: Endotrachael insufflation of oxygen during apnea, Anaesthesia 10:59, 1955.

15. Smith, Robert H. and Volpitto, Perry P.: Bucking and bronchospasm as problems of anesthesia, J.A.M.A., 172:1499, 1960.

16. Saltzman, Charles, Konikov, William and Relyea, Ruth: Modification of electroshock therapy by succinylcholine, Dis. Nerv. System 16:153 (May) 1955.

17. Tinterow, Maurice M.: Succinylcholine chloride in the treatment of tetanus: a case report; J. of the Kansas Medical Soc., 56:252-254, 1955.

18. Woolmer, Ronald: Management of the apneic patient with special reference to bulbar polomyelitis and tetanus, Postgraduate Medical Jour., 31:463, 1955.

19. Clutton-Brock, John: The cerebral effects of overventilation, Brit. J. Anaesth., 29:111, 1957.

20. Maloney, J. V., Whittenberger, J. L., Silverman, L.: An integrating ventilation meter for clinical use, Jour. Lab. & Clin. Med. 37(5):828, 1951.

21. Beldavs, J.: Intramuscular succinylcholine for endotracheal intubation in infants and children, Can. Anaes. Soc. J., 6:141, 1959.

22. Churchill-Davidson, H. C. and Richardson, A. T.: Neuromuscular transmission in myasthenia gravis, J. Physio., 122:252, 1953.

23. Paton, W. D. M.: The effects of muscle relaxants other than muscular relaxation, Anesthesiology, 20:453, 1959.

24. Comroe, J. H., Jr. and Dripps, R. D.: Histamine-like action of curare and tubo-curarine injected intracutaneously and intra-arterially in man, Anesthesiology, 7:260, 1946.

25. Bulbring, E., and Depierre, F.: The action of synthetic curarizing compounds in skeletal muscle and sympathetic ganglia, both normal and denervated, Brit. J. Pharmacol., 4:22, 1949.

26. Schwartz, Herman, Ngai, S. H., Papper, E. M.: Manual of Anesthesiology, Springfield, Ill., Charles C Thomas, Publisher, 1957—pp. 102.

27. Pearcy, W. C., and Pick, M. M.: Muscle Pain after administration of succinylcholine, J.A.M.A., 174: 1392, 1960.

28. Cullen, Stuart C.: Clinical practice with muscle relaxants, Anesthesiology, 20:534, 1959.

29. Foldes, F. F., et al.: Causes and prevention of prolonged apnea with succinylcholine: Anes. and Analg., 35:609, 1956.

30. Eckenhoff, James E.: Postanesthetic respiratory depression, differential diagnoses, Texas State J. Med., 55:797, 1959.

31. Paton, W. D. M.: Possible causes of prolonged apnea, Anesthesia, 13:253, 1958.

32. Churchill-Davidson, H. C.: The causes and treatment of prolonged apnea, Anesthesiology, 20:535, 1959.

33. Sherwood, T. C., Grant, George B: The present status of muscle relaxants, J. La. State Med. Soc., 110: 308, 1958.

34. Churchill-Davidson, H. C.: Neuromuscular block in man, Anesthesiology, 17:88, 1956.

35, Taylor, Dermot B.: The mechanism of action of muscle relaxants and their antagonists, Anesthesiology, 20:439, 1959.

36. Hunter, A. R.: Neostigmine resistant curarization, Brit. M. J. 2:919, 1956.

37. Foldes, F. F., et al.: The fate of succinylcholine in man, Anesthesiology, 16:11, 1955.

Nature of Yellow Fever

S. M. Bemiss

* * * Artificial heat is a destroyer of yellow fever poison; but the same objections rest against it that I have mentioned as applicable to artificial cold. It is not possible to extend its range of action beyond close rooms and such fomites as may be conveniently subjected to it in ovens or closets. * * *

Burning infected things certainly puts and end to their power to work harm. But the manner in which this is sometimes done is productive of more injury than good. If slow fires are trusted to consume infected material, the smoke and currents of air emanating from them convey the infection to the inhabitants of neighboring houses. The articles to be burned should be covered with some inflammable substance and thrown upon hot fires.

New Orleans M. & S. J. 10:349 (Nov.) 1882

Commitment Procedure in Louisiana

• The commitment of the mentally ill is a subject of wide interest, a problem of tremendous social and economic proportions.

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MENTAL illness is the nation's number one health problem. Half the hospital beds in the United States are occupied by mental patients. There are over 618,000 resident patients in public mental hospitals in the United States; there are over 219,000 new admissions each year. In 1960, Louisiana's three public mental hospitals treated 15,777 patients; they admitted during the year 4,376 new patients.[1]

This paper briefly describes the Mental Health Law of Louisiana and discusses the manner in which commitment procedure is actually carried out in practice.[2]

I. Types of Civil Commitment

The term "commitment" designates the various types of admission to the mental hospital. The Mental Health Law of Louisiana provides four modes of procedure for admission to a mental hospital: (1) coroner's commitment, (2) judicial commitment, (3) emergency commitment, and (4) voluntary admission.

The statutes on compulsory hospitalization in the United States (including Louisiana's) are an outgrowth of the common law rule that any person has a right to detain one who is mentally ill and dangerous to himself or others. Only the last-indicated procedure (voluntary admission) requires the patient's consent. Many mental patients prefer to remain in the hospital, seeking its security and care, but there are others who protest hospitalization. The mental health laws are unique in our legal system.[3] They permit forced incarceration without the commission of crime. The justification for involuntary commitment is that a seriously ill person lacks the insight to care for himself or may be dangerous to others. For these reasons, the care of the mentally ill entails legal formalities generally unnecessary in the care of persons suffering physical illness.

A. Coroner's Commitment

The coroner's commitment procedure involves an application to the superintendent of a hospital, submitted by a relative, or any responsible person in the "absence of relatives," and supported by a certificate signed by the coroner and another physician. As a result of an amendment in 1954, pushed by State Representative Wellborn Jack of Caddo Parish, the application must also be approved by a district court judge. While the judge may act upon it without formalities (such as notice and hearing), it can realistically be said that there is no longer in operation in Louisiana the coroner's commitment procedure. There is now no authority for the coroner to commit directly to an institution; the application must be approved by the judge, at least informally.[4]

The coroner's commitment procedure is also seldom used in Louisiana because the patient can petition for a subsequent-to-commitment court hearing, entailing expense and time, which can be obviated by obtaining initially a formal court order, with notice and hearing. In Louisiana any person committed without formal notice and hearing is entitled to a hearing upon demand.[5]

It would appear that there is no need for the coroner's commitment procedure in Louisiana. It does not exist elsewhere. The coroner's position in Louisiana is usually filled by persons inexperienced in the diagnosis of mental illness, and hence his

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certification is not of particular value. The decision may as well be made by the judge. The judicial and emergency commitment procedures are adequate methods for compulsory admission.

B. Judicial Commitment

The judicial or court commitment is the principal mode of procedure which is used throughout the country, including Louisiana. The commitment is for an indefinite period. Approximately 90 per cent of all mental patients are admitted via judicial procedure.

The Louisiana law provides that any responsible person, upon presentation of a certificate co-signed by the coroner and another physician, may apply to a civil district court for commitment of a mentally ill person.[6] The judge at the hearing may or may not request the presence of the patient and it is within his discretion whether notice of the hearing is served on the patient. It is possible to obtain a judicial commitment within twenty-four hours in most Louisiana parishes. In Orleans Parish, the parish of the largest number of commitment applications, the Civil District Court requires that the patient be served notice fifteen days before hearing. The fifteen-day notice period, which is generally employed in judicial proceedings, seems excessive for commitment procedure in that it delays transfer of patients to state hospitals from Charity Hospital and the Veterans Administration Hospital, from which, as a matter of practice, judicial commitments are made in Orleans Parish. When commitment is contested, which is rare, delays could be granted. As matters stand, the fifteen-day notice period places the Charity and Veterans Administration Hospitals in the position of custodians. In Orleans Parish, the judge at the hearing interviews, at least briefly, every patient to be committed.

In both the coroner's and judicial commitments, the coroner and physician must have made a personal examination of the alleged mental patient not more than three days prior to the date of petitioning the superintendent or court. Furthermore, in the case of the coroner's commitment, the alleged mental patient must be admitted to the hospital within fourteen days after the examination.

To assist in deciding upon an application for commitment, some judges take advantage of the provision of the law which permits sending the allegedly mentally ill person to an institution for a limited period for observation.[7] The court order sometimes allows the institution "thirty days and such additional time as may be required" to make a finding.

The judicial commitment procedure has come in for a great deal of criticism. It is considered in some quarters to be useless and detrimental. The British Mental Health Act has eliminated judicial commitment in civil cases. An independent agency, called the Mental Health Review Tribunal, composed of persons trained in law, medicine and social service, and to which patients and their relatives have access, is established under the British Act to review the need for continued hospitalization.[8] It is the view that the magistrate's order is not an effective safeguard because he cannot form any sound independent opinion on the patient's mental state[9] and because the judicial order links certification with the courts and the punishment of crime, thereby stigmatizing the patient. The new British Act replaces the judicial order with the requirement in compulsory admission cases of two medical opinions including one from a doctor of special experience. It is considered that the requirement of two medical opinions, one of which is by an expert, is a better safeguard than the judicial order.[10]

It would appear, however, that the judicial commitment procedure should be retained by law. As a result of the judicial commitment, there is less chance of the physician being sued for an improper confinement. It spreads the responsibility. Furthermore, many commitments are social decisions, involving persons who are not medical problems but who are sent to the mental hospital for lack of another place to send them for custodial care. It is the function of the judge as society's

representative to make a value decision of this type. Regarding commitments for medical reasons, judicial commitment should be afforded only upon request. At Charity Hospital in New Orleans, where there are approximately 90 admissions per month, 30 to 45 persons are committed to state institutions, the remainder discharged. Approximately two-thirds of the patients who are committed are either out of contact with reality or in perfect agreement with the physician's recommendation of commitment. The remaining one-third protest commitment. It would appear that the latter are entitled to have a judge make the decision. For others, there is no need for judicial commitment, which is stigmatizing and time-consuming. There is always the remedy of habeas corpus for improper confinement.

C. Emergency Commitment

The emergency commitment of the mentally ill is done by a doctor and a friend. The law provides that a relative, curator or friend may apply to an institution superintendent for the emergency commitment of a person who, upon examination by a qualified physician, has been certified to be mentally ill and in need of immediate care. An emergency commitment must be followed by judicial or coroner's commitment, or by discharge, within thirty days.[11]

The emergency commitment procedure is little used in Louisiana, probably because most physicians have been unaware of its availability. The examining physician need not be a psychiatrist. Perhaps some physicians are wary of a lawsuit, especially in cases involving paranoid individuals, but insurance is available as protection, and lawsuits, which are rare, are singularly unsuccessful throughout the country. A physician acting in good faith to arrange care for an acutely disturbed, potentially suicidal or destructive patient need not fear legal repercussions. More frequent emergency commitments would reduce the number of instances in which acute psychiatric cases are confined in jails or permitted to run free at risk to themselves and others. Moreover, within the thirty-day confinement period afforded by the emergency commitment procedure, the patient is often calmed down, ready for discharge or voluntary admission. As a prerequisite for this form of commitment, the examining physician must state that the patient requires immediate care in a mental hospital.

In approximately fifteen states there apparently is no short-cut of formal adjudication even in acute emergencies. In these states a violent patient would have to be detained in jail until formal commitment is accomplished.

D. Voluntary Admission

Voluntary admission to an institution may be obtained by a mentally ill person who presents to the superintendent a written application and a physician's certificate of examination.[12]

Until recently, few voluntary patients were accepted in Louisiana State hospitals. Voluntary admissions were not encouraged since these patients could obtain a release on demand although the hospital staff might believe the patient to be a danger to himself or to society. It was difficult for the staff to obtain judicial commitments of patients already in state hospitals not located in their home parishes. In 1954, the Louisiana law was amended to provide that the superintendent, within forty-eight hours of the request, may state to the district court of the parish where the mental institution is located that the release of the patient would not be wise from the viewpoint of the safety of the patient or others, and release may be postponed for as long as the court determines necessary for the commencement of judicial commitment.[13] Notwithstanding the disadvantages, voluntary commitments have recently been encouraged, as they should be in our opinion, since the stigma and prison-like aspects of hospitalization are thus appreciably reduced. There is thus afforded an opportunity for hospitalization with no more red tape than admission to a general hospital. An important right of the

mentally ill, sometimes forgotten, is the right to early and efficient treatment. Burdensome admission formalities make families reluctant to send relatives to the hospital, are painful to the patient himself, and tend to foster the stigma of mental illness.

The Southeast Louisiana Hospital (Mandeville) has recently begun accepting some voluntary cases from New Orleans on the condition that the patient agree to give seven days' notice prior to demanding his discharge. If a patient requests his release but is considered by the staff to be dangerous to himself or others, he is transferred to Charity Hospital in New Orleans where steps are immediately taken to obtain judicial commitment. At present voluntary applicants are being accepted in increasing numbers by the East Louisiana State Hospital at Jackson. Unfortunately, some persons applying for admission are not seeking treatment but are running away from real or apparent legal or family problems. There are a number of alcoholics seeking admission.

There is a growing tendency throughout the country toward nonjudicial commitment. The voluntary admission procedure exists in all states, except approximately six. Most states in the United States specify a short fixed detention period or a short detention period following a notice of desire to leave. Although he enters at will, the patient cannot leave at will.[14] The British Mental Health Act grants power to change the patient's status quickly to that of a detained patient. The British Act makes no distinction between the treatment of the detained patient and that of the voluntary patient.[15]

II. Criminal Commitment

A person charged or convicted of crime who is mentally ill at the time of trial is judicially committed to the so-called criminal colony at the East Louisiana State Hospital.[16] Criminal commitments are often of therapeutically hopeless cases. However, an active treatment unit, separating the treatable, has recently been established in the criminal colony.

A prisoner in the jail or penitentiary who becomes mentally ill during the term of sentence is committable to the criminal colony at the East Louisiana State Hospital. Transfer is accomplished by the regular criminal commitment,[17] and the period of commitment is credited against the sentence.[18] There is no provision for transfer of the non-psychotic criminal. From the viewpoint of rehabilitation, there is much to be said for the establishment of coordinated transfers between institutions. Within the institution, the hospital superintendent has the right to transfer a patient who was not voluntarily admitted to the criminal colony without his consent, which is sometimes necessary for the maintenance of security.[19] Under the British Mental Health Act, the courts may, with doctors' approval, order hospitalization instead of imprisonment for mentally ill persons who are deemed suitable for treatment.

A person who is acquitted of crime by reason of "insanity" at the time of the alalleged criminal act (under *M'Naghten* right-and-wrong test) is considered for judicial civil commitment. When the court commits such a person, there is no conviction and prison is consequently abandoned as an alternative. From the hospital point of view, it would be desirable to give the hospital the power to reject patients who are severe management problems; otherwise the hospital may have to convert itself into a prison in order to control them.

It is important to note that a person who is criminally committed is sometimes "the forgotten man."[20] If he had been sent to prison, he would have been released at the end of his sentence, or earlier, depending upon parole. However, in the hospital, the judge, mindful of public opinion, is reluctant to order his release unless the hospital psychiatrist will absolutely guarantee to him that the patient will commit no further crime, which of course the psychiatrist cannot do. The hospital as a result may act as a jail, with the patient serving an indeterminate sentence. The problem is not restricted to Louisiana. It exists throughout the United States, es-

pecially in institutions which are inadequately staffed.

III. Notice and Hearing in Civil Commitments

Most states of the United States, in their interpretation of due process, require that the alleged mental patient have actual notice and an opportunity for a court hearing prior to compulsory admission to a hospital, in civil commitment as well as in criminal commitment. In four states,[21] a warrant is actually served by the sheriff. The Louisiana Mental Health Law (and similar laws in other states) do not provide for notice and an opportunity for hearing before commitment. However, as a rule, patients committed to state hospitals from Orleans Parish have notice served by the civil sheriff and a hearing which is usually held in Charity Hospital.

The opportunity in Louisiana to petition for a subsequent-to-commitment judicial hearing is said to satisfy the due process requirement for persons committed without a hearing. The Louisiana Mental Health Law provides in the post-commitment petition-for-hearing procedures that an individual may request the appointment of a commission to assist the court in the hearing. The prior determination is easily maintained as the commission may be composed of the coroner and physician who signed the certificate of commitment.

Trial by jury is not allowed in Louisiana commitment procedure nor in that of most other states.[22] In a criminal proceeding, the state moves against the accused, but in a commitment proceeding, the state moves on behalf of the patient as well as the community. As it has been put, the use of a jury in commitment proceedings is about as sensible as calling in the neighbors to diagnose meningitis or scarlet fever.[23] However, the jury may have a role to play, not in diagnosing the illness, but in determining whether a person should be committed. Commitment is at root a social problem, and the jury, representing a cross-section of the community, may be the best agent to decide. For example, it may be the prognosis that a person, left to his own devices, will shortly commit suicide, but he prefers to be left alone, "to go to hell in his own way." He is, let us assume, a danger to no one but himself. The decision in this case rests on social values.[24] However, because of the time and expense involved, it is generally believed that the legalism of the jury system is not justified in this area. Furthermore, as diagnosis and treatment are interrelated, physicians would make diagnoses to the jury with a view to the consequences. If commitment is the desideratum, the physician would tend to diagnose the case so as to convince the jury of the necessity of commitment. It would appear that the judge alone in the court commitment procedure can adequately protect the civil rights of the patient.

The contested case, wherein a patient or his family obtain legal counsel in an effort to defeat a petition for commitment, is rare. One of the authors has been the examining physician in approximately 2500 commitment proceeding of which less than 1 per cent have been formally contested. The chief reason for the rarity of contested cases is that the patient's psychotic condition makes an organized effort to defend him impossible. In addition, even though a patient may be psychotic in the physician's opinion, the physician will seldom press for commitment in the face of opposition from the family unless the patient is clearly a homicidal or suicidal risk.

IV. Liability for Improper Commitment

Emphasis on medical considerations in the Louisiana Mental Health Law (and similar laws in other states) results in a minimum of legal proceedings. The danger inherent in minimizing legal proceedings is the possible commitment of a healthy person and the resultant harm to his reputation. To guard against this danger, anyone who maliciously and without probable cause instigates commitment proceedings may be held liable in damages. A physician who makes a negligent ex-

amination which causes a healthy person to be committed to an institution may also be held liable in damages. Furthermore, any person who improperly commits or attempts to commit a healthy person may be subject to fine or imprisonment. However, a plot to "put someone away" for reasons of vengeance or personal gain seems to occur more frequently as a dramatic theme than in actuality where a qualified examiner could readily distinguish delusion from reality. The so-called "railroading" of mental patients is more a myth than anything else.

Although a malicious, improper confinement is rare, patients are often tricked into coming to a hospital or coroner's office in an unfortunate manner by well-meaning relatives, police officers, or physicians who, in order to avoid possible violent resistance, tell the patient that he is coming back home immediately, that he is going to see a sick friend, etc. Open force is preferable to deception since the disturbed person may already be excessively suspicious and this deception confirms his persecutory ideas and may much delay his recovery.

V. Commitable Persons

The scope of the Louisiana Mental Health Law is broad. It provides in general terms for the commitment of the mentally ill,[25] the mental defective,[26] the epileptic[27] and the inebriate.[28] While a hospital is legally bound to accept a person who is commited, the reality of the situation—the limitation of facilities and personnel—often prevents the acceptance of all commited persons.

A. Mental Defectives

It is estimated that there are on the waiting list in Louisiana approximately one thousand mental defectives, who incidentally need custodial care rather than medical treatment. Mental defectives can quickly overflow an institution. But, at present, the judge in Louisiana has no place to send them other than to the mental hospital. On occasion the judge may hope that the examining physician will not diagnose the person as a mental defective, so as to enhance his chance of acceptance by a state mental hospital. Confronted with the problem of disposition of a disturbed defective, the physician might minimize the deficiency aspect of the disorder in his diagnosis. Once accepted by the hospital, a mental defective committed by court order can be discharged only with the approval of the committing court.[29]

B. The Aged

Even though not psychotic, the aged are with great frequency being committed to mental hospitals. Throughout the nation many feeble old people are sent to mental hospitals for primarily sociologic rather than mental-health reasons. Relatives are unwilling or unable to care for them and homes for the aged are usually unavailable. As a result, one often sees in the mental hospital gentle, mild-mannered old people sitting among younger, very disturbed persons. These elderly patients may be unable to care for themselves at home because of organic brain changes associated with senility resulting in forgetfulness, periods of confusion, deterioration of social habits, and obstreperous behavior. They need custodial care, but not in a mental hospital; separate state facilities for the aged would be more suitable. Many individuals today believe that the State has the duty of taking care of their elder relatives. They do not feel responsible for their old folks.

C. The Sociopath

A sociopath (anti-social person or psychopath, as he is also called), such as the sexual psychopath, falls under the broad legal definition in the Louisiana Mental Health Law of a mentally ill person and hence is commitable. However, this type of person is often not treatable, and moreover is disruptive in a hospital setting. To protect against his plotting of riots, escape, and other acts, the hospital must maintain excessive security like that of a prison. The place for the sociopath is the prison, or a specialized unit, not the mental hospital as presently constituted. The law provides that a patient who has

shown dangerous tendencies shall be discharged only after sufficient guarantee of proper supervision of the patient by a reputable person.[30]

D. The Alcoholic

While the alcoholic can be committed under the Mental Health Act and is considered to be a mentally ill person by most psychiatrists, he is not ordinarily committed as he presents special problems. Involuntary commitment is of little avail in the average case since an alcoholic who is not motivated to seek help voluntarily rarely benefits from treatment.[31] No matter how long the confinement, such a person will immediately begin drinking on his discharge. Judicial commitment is used in the case of the alcoholic who has become psychotic and needs temporary confinement for treatment of the psychotic phase of his illness. A difficult problem concerning the decision to commit occurs in the case of a person who is psychotic only when intoxicated, the alcohol acting as a trigger to release a dormant psychosis. These patients may become homicidal when intoxicated but after a few days of hospital care will appear perfectly normal. If there is no motivation for further treatment, commitment to a state hospital will be served like a prison term, with no benefits derived. But, if released, the return to the previous pattern with drinking and disturbed behavior can be predicted. Neither present laws nor facilities provide an adequate solution. And, as in the case of the psychopath, psychiatrists wait for society through changes in its laws to say whether it wants such people confined indefinitely or permitted to continue a potentially dangerous freedom.

E. The Juvenile

A juvenile can be committed only by the judicial mode of procedure. Jurisdiction is vested entirely in the juvenile court.[32] The juvenile court has jurisdiction of neglected and delinquent juveniles under the age of seventeen. If the juvenile is committed, the juvenile court retains custody over him while he is in the institution until he reaches the age of twenty-one years.[33] If further commitment is then necessary, a petition must be made to the district court for commitment.

VI. The Rights of the Committed Patient

The Louisiana Mental Health Law includes post-admission provisions. It provides a bill of rights for patients. It includes: (1) the right to private visitation and correspondence with an agent of the department, the patient's attorney, physician, minister, relatives or friends;[34] (2) the right to be employed at a useful occupation, depending on his condition and available facilities, and to sell his products; (3) the right to hire examination by a private physician under the supervision of the department; (4) the right to be discharged as soon as medically advisable; and (5) the right to the writ of habeas corpus.[35]

The Louisiana Mental Health Law does not mention the right of the patient to proper medical care. The commitment laws of some states provide for "medical care and treatment in accordance with the highest standards accepted in medical practice." However, the general lack of adequate hospital personnel and equipment usually makes this provision simply a pious expression of hope. In 1958, Louisiana ranked forty-seventh in the nation in the adequacy of the physician staff at its mental hospitals according to the standards of the American Psychiatric Association. It ranked forty-second in the nation in average maintenance expenditure per patient per day in public mental hospitals. It ranked thirty-fifth in the nation in per-capita spending for mental patients.[36] These figures, however, do not reflect the tremendous progress made in recent years in Louisiana. As recently reported by Dr. Robert G. Heath, Chairman of Tulane University's Department of Psychiatry, vast improvements have been made in Louisiana in the care of the mentally ill, primarily as a result of close cooperation between the state hospitals and the universities.[37]

Under the Louisiana Mental Health Law, commitment in itself does not de-

prive the patient of his civil rights, such as the right to make contracts and gifts. It is the purpose of an incompetency proceeding (interdiction) to adjudge a person incompetent and to appoint a curator (guardian) to control his property and administer his affairs. Commitment, while it involves confinement in an institution, does not in itself take from the patient the care and management of his estate. In some states, and as a matter of practice in some parishes in Louisiana, commitment and interdiction (guardianship) are joined in one proceeding. In our opinion, the process of commitment should be kept separate from that of adjudication of incompetency. Identification of commitment with incompetency proceedings makes for excessive formality in the former. The deprivation of civil rights is properly attended with legal safeguards, but formality is undesirable in the commitment process, which is concerned with the determination whether a person should be hospitalized.

In those jurisdictions which combine commitment and incompetency proceedings, the patient loses a number of rights, such as control over his property, the right to maintain his marriage, the custody of his children, and, in some places, the right to have children, as he may be subject to sterilization laws. The mental patient also has no statutory right in many jurisdictions to correspond with persons outside the hospital, including an attorney.

VII The Rights of the Superintendent

The superintendent of the hospital may discharge any patient committed to his institution if he believes that the patient has sufficiently recovered and that no harm will result from his discharge. However, a criminally committed patient,[38] a juvenile,[39] or a mental defective committed by court order,[40] can be discharged only upon order of the committing court. Moreover, a patient who has shown dangerous tendencies can be discharged only upon the written consent of the Department of Hospitals after an examination and after sufficient guarantee of proper supervision of the patient by a reputable person.[41] Furthermore, any patient whose discharge is opposed by a relative or other interested person can be discharged only after the person opposing has been notified and given an opportunity to state his reasons why the patient should be detained for further care and treatment.[42]

The Department of Institutions has the power under the law to establish places of confinement for patients of dangerous tendencies and for those charged with crime who require special protection and restraint.[43] Hence, at the East Louisiana State Hospital, persons needing maximum security are confined in the criminal colony. The superintendent has the authority to transfer a patient from one division of the hospital to another, with the exception that a person criminally committed can be transferred only upon the authority of the committing court and a voluntary patient can be transferred only with his written consent.[44]

Regarding the alcoholic, it might be noted that alcoholism is often a problem secondary to severe mental disturbance. At the hospital, when this is learned, the patient is transferred out of the alcoholic unit. The family, however, objects, complaining of the patient's transfer to the "insane folks." As pointed out, a voluntary patient can be transferred only with his written consent, and hence the hospital's care of the patient is rendered difficult.

VIII. Conclusion

(1) Although in need of improvement, the Louisiana Mental Health Law is one of the more modern in the nation. It provides for immediate hospitalization for mentally ill persons. It eliminates many medically injurious features of procedures currently used in other states.

(2) Physicians and attorneys could expedite admission of acutely ill psychiatric patients by becoming familiar with the Mental Health Act. Few have been aware of the thirty-day emergency commitment.

(3) The law does not adequately provide for the disposition of nonpsychotic

mentally ill persons such as the sociopath, the alcoholic, and the aged person with organic brain damage. The commitment of the nonpsychotic mentally ill needs clarification in the law. It is a confused area in both law and psychiatry. Furthermore, proper facilities are needed for their confinement.

Footnotes

[1] Although the stress today is on treating the mentally ill in the community rather than on transferring them to state institutions, the number of persons in out-of-the-community institutions remains today approximately the same as in previous years. But the rate of discharge is quicker, due essentially to the development of tranquilizing drugs.

"On any given day there are, in the publicly supported hospitals for mental diseases of this country, between 600,000 and 700,000 patients. An enormous number of these patients have been hospitalized for many years. There is repetitive evidence that once a patient has remained in a large mental hospital for two years or more, he is quite unlikely to leave except by death. He becomes one of the large mass of so-called 'chronic' patients." Bloomberg, *A Proposal for a Community-Based Hospital as a Branch of a State Hospital*, 116 Am. J. Psychiatry 814 (1960).

[2] The problem of commitment and hospitalization of the mentally ill has been receiving wide attention. In 1950, the Council of State Governments and the Federal Security Agency prepared a "Draft Act," which was transmitted to all of the state governors as a working model, to be adapted to local need and conditions. Approximately ten states have adopted the Draft Act in whole or in part. See U. S. Public Health Service, A Draft Act Governing Hospitalization of the Mentally Ill, Pub. No. 51 (Rev. ed. 1952); Curran, *Hospitalization of the Mentally Ill*, 31 N.C.L. Rev. 274 (1953); Davidson, *The Commitment Procedures and Their Legal Implications*, in 2 American Handbook of Psychiatry 1902 (Arieti ed. 1959); Felix, *Hospitalization of the Mentally Ill*, 107 Am. J. Psychiatry 712 (1951); Ross, *Commitment of the Mentally Ill: Problems of Law and Policy*, 57 Mich. L. Rev. 945 (1959); Whitmore, *Comments on a Draft Act for the Hospitalization of the Mentally Ill*, 19 Geo. Wash. L. Rev. 512 (1951); Weihofen, *Hospitalization of the Mentally Ill*, 50 Mich. L. Rev. 837 (1952).

The American Bar Foundation has conducted a research survey of the rights of the mentally ill, under the directorship of Professor Hugh Alan Ross of the Western Reserve University Law School. See American Bar Foundation, The Mentally Disabled and the Law, Report of the Project of the Rights of the Mentally Ill (1960). The Association of the Bar of the City of New York and the Cornell Law School have established a Special Committee on the Study of Commitment Procedures, of which Professor Bertram F. Willcox of the Cornell Law School has been named director. The task of the Committee is to study and evaluate the law and regulations with respect to admission of patients to mental hospitals in New York State. The time-table calls for publication of the report in book form, hopefully before the end of 1961. Since 1954, approximately twenty-three states have set up special committees to study various phases of the mental illness law. See Kittrie, *Mental Disability Law*, Student Law. J. 5 (June, 1958).

Appendix

PATIENTS ADMITTED TO LOUISIANA STATE MENTAL HOSPITALS
CLASSIFIED BY TYPE OF ADMISSION, FISCAL YEAR 1959-60

Admission Type	East	Central	Southeast	Total
Voluntary	106	6	139	251
Emergency	8	18	6	32
Coroners	20	9	116	145
Judicial—Civil	1454	1410	449	3313
Judicial—Observation	6	6	2	14
Judicial—Criminal	118	—	—	118
Transfer from Penal or Correctional Institution	33	—	—	33
Transfer from Other La. State Mental Hospital	60	12	16	88
Transfer from State Colony	1	1	—	2
Transfer from Other State Institution	7	10	—	17
Transferred from Charity Hospital	327	2	34	363
Not Reported	—	—	—	—
Total	2140	1474	762	4376

The Subcommittee on Constitutional Rights of the Committee on the Judiciary of the United States Senate, of which Senator Sam J. Ervin, Jr., of North Carolina is chairman, conducted hearings in March and April, 1961, on the constitutional rights of the mentally ill. The subcommittee's primary interest concerned federal jurisdiction, but it gathered information on commitment procedures and related matters in the states.

Dr. A. K. Lavender, Superintendent of the East Louisiana State Hospital at Jackson, Louisiana, has organized conferences, inviting persons from various fields, to discuss commitment procedure in Louisiana. A copy of the Louisiana Mental Health Law (Title 28 of the Revised Statutes), is available upon request from the Department of Hospitals, Baton Rouge, Louisiana. The Louisiana law, adopted in 1946, contains many of the best features of the Draft Act.

England and Wales enacted a new mental health act in 1959, the first fundamental revision of the English mental health laws since 1945. See Maclay, *The New Mental Health Act in England and Wales*, 116 Am. J. Psychiatry 777 (1960); Willcox & Roemer, *Hospitalization Under the British Mental Health Act, 1959*, 9 Am. J. Comp. L. 606 (1960).

[3] They find parallel only in the statutes passed some years ago in regard to recalcitrant tuberculosis patients. See, *e.g.*, Mass. Laws Ann. §§ 94A-H (1932).

[4] La. R.S. of 1950, 28:53. As amended in 1954, the law provides that "the application for commitment shall be presented to the judge of the judicial district court or the civil district court for the parish from which the patient is to be committed, for his approval or disapproval. The application for commitment can be acted upon by the judge in open court or in chambers, in term or in vacation, without the necessity formally docketing and allotting said application."

[5] See La. R.S. of 1950, 28:56.

[6] La. R.S. of 1950, 28:53.

[7] "To assist him in disposing of the application, the judge may request the presence of the patient or commit him to an institution for a limited period of observation." La. R.S. of 1950, 28:53.

[8] See Willcox & Roemer, *supra* note 2.

[9] Consider the following, excerpted from a hearing held at Bellevue Hospital, New York, on February 24, 1954:

Patient: This is my 77th day of enforced confinement in mental institutions. I have a family to support by means of a skilled profession and for some time have felt perfectly capable of assuming my responsibilities. My antagonistic and uncooperative attitude toward psychiatrists and hospitals has merely been an expression of my natural resentment against enforced confinement. . . .

Court: Tell me, doctor, is this patient likely to injure anybody or himself?

Doctor: Your Honor, he has been quite impulsive on the ward and I feel that this is a possibility, particularly with reference to injuring himself.

Patient: Specifically what makes you feel that doctor?

Court: Well, that is based upon the general picture; is that it?

Doctor: That's correct, your Honor.

Patient: How is it possible in this hospital where there are 106 patients on a ward for there to be a satisfactory observation of any particular patient if he does not do things tremendously abnormal, which I have not, and if you ask the doctor to present specific evidence as to my actions on the ward what can he say? Exactly what?

Court: I think we have heard the entire case and I am of the opinion, based upon what the doctor says, who is a specialist in this work, that you require treatment, and I am going to send you to a hospital.

[10] See Maclay, *supra* note 2.

[11] La. R.S. of 1950, 28:57.

[12] La. R.S. of 1950, 28:51. The voluntary procedure is really an "admission" rather than a "commitment," inasmuch as the basic condition of commitment is absent, namely, involuntariness. See Ross, *Hospitalization of the Voluntary Mental Patient*, 53 Mich. L. Rev. 353 (1955).

The use of the word "voluntary" has led to a great deal of confusion in this area of the law. The question is often put this way: How can a psychotic person, whose symptom is lack of understanding, be considered to have the capacity to make application for a "voluntary" admission? The result of requiring a showing of mental capacity for the making of a voluntary application is paradoxical—the sicker the person the harder it is for him to get into the hospital! The problem stems essentially from the terminology employed. The British Mental Health Act substitutes the word "informal" for "voluntary."

[13] La. R.S. of 1950, 28:98.1.

[14] See, *e.g.*, Colo. Rev. Stat. § 71-1-2(3) (Supp. 1951) (detention for five days after written request); Ill. Ann. Stat. c. 91½, § 4-2 (Smith-Hurd 1935) (thirty days); Md. Ann. Code art. 59, § 37 (three days); N.Y. Mental Hygiene Law § 71 (fifteen days); Penn. Stat. Ann. tit. 50, § 1164 (Purdon 1945) (ten days).

[15] See Willcox & Roemer, *supra* note 2 at 613.

[16] Under the law, a person charged with crime may be committed to the East Louisiana State Hospital, Central Louisiana State Hospital, or to the State Colony and Training School for observation and report. La. R.S. of 1950, 15:267. In Louisiana the grand jury is required to inform the court when it fails to indict a person "on account of insanity." La. R.S. of 1950 15:210.1.

See generally, Weihofen, *Institutional Treatment of Persons Aquitted by Reason of Insanity*, 38 Texas L. Rev. 849 (1960).

[17] See La. R.S. of 1950, 15:267-268.

[18] La. R.S. of 1950, 28:59; see also La. R.S. of 1950, 28:25.

[19] See La. R.S. of 1950, 28:94.

[20] See Szasz, *Civil Liberties and Mental Illness*, 131 J. Nervous & Mental Disease 58 (1960); see also Goldstein & Katz, *Dangerousness and Mental Illness—Some Observations on the Decision to Release Persons Acquitted by Reason of Insanity*, 70 Yale L. J. 225 (1960).

[21] Idaho, Kansas, Mississippi, New Mexico.

[22] The jury is mandatory in two states (Texas and Mississippi) and optional in nineteen others. See Comment, 56 Yale L.J. 1178 (1947). See also State *ex rel.* Fuller v. Mullinax, 364 Mo. 858, 269 S.W. 2d 72 (1954); GAP Report No. 4, Commitment Procedures (1948).

[23] See Ross, *Commitment of the Mentally Ill: Problems of Law and Policy*, 57 Mich. L. Rev. 945, 963, (1959); see also Bowman, *Presidential Address*, 103 Am. J. Psychiatry 1, 12 (1946); Williams, *Public-Law Adjudications of Mental Unsoundness and Commitability in Texas: Jury Trial Policy*, 1 Baylor L. Rev. 248 (1949).

[24] See Ross, *supra* note 23. Dr. Thomas S. Szasz, of the Department of Psychiatry of the State University of New York Upstate Medical Center at Syracuse, states that the primary purpose of commitment is social restraint of the individual rather than his treatment. See Szasz, *Hospital-Patient Relationships in Medicine and Psychiatry*, 45 Mental Hygiene 171 (1961); Szasz, *Commitment of the Mentally Ill: "Treatment" or Social Restraint?*, 125 J. of Nervous and Mental Disease 293 (1957); Szasz, The Myth of Mental Illness (1961).

[25] The "mentally ill" is defined as "a person who is suffering from an illness which so lessens his capacity to use his customary self-control, judgment, and discretion in the conduct of his affairs and social relations as to make it necessary or advisable for him to be under care, supervision, guidance, or control. The term includes persons suffering from mental disease, mental disorder, lunacy, unsoundness of mind, and insanity." La. R.S. of 1950, 28:2(3).

The definition of mental illness in the Louisiana statute is circuitous. It in effect says that a mentally ill person is a person who needs to be in the hospital. While mental illness should be defined in accordance with modern psychiatric knowledge, the persons who are commitable under the commitment laws, for practical reasons, should not be restricted to the psychotic. Persons who are in need of social control, nuisance-type persons, aged persons, *etc.*, are often committed to the hospital, although not needing medical care. There is no facility to receive them other than the hospital. See discussion *infra*.

[26] The "mental defective" is defined as "a person who is not mentally ill but whose mental development is so retarded that he has not acquired enough self-control, judgment, and discretion to manage himself and his affairs, and for whose own welfare or that of others, care, supervision, guidance, or control are necessary or advisable. The term includes feeble-minded, idiot, and imbecile." La. R.S. of 1950, 28:2(4).

[27] The "epileptic" is defined as "a person suffering from any condition which brings about lapses of consciousness which may or may not be accompanied by convulsive seizures, and which may become chronic." La. R.S. of 1950, 28:2(5).

[28] The "inebriate" is defined as "a person who is so habitually addicted to the use of alcohol or other intoxicating or narcotic substances as to be unwilling or unable without help to stop the excessive use of such substances. The term includes dipsomaniac, habitual drunkard, person addicted to the use of alcoholic drink or intoxicating drugs, person so habitually addicted to the use of alcoholic drink, absinthe, opium, morphine, chloral, or other intoxicating liquors or drugs as to be a proper subject for restraint, care, and treatment in a hospital or asylum, and persons habitually so addicted to the use of alcohol or narcotic drugs as to be a proper subject for restraint, care, and treatment." La. R.S. of 1950, 28:2(6).

[29] See La. R.S. of 1950, 28:96(G).

[30] See La. R.S. of 1950, 28:96(E).

[31] There are in Louisiana three special-treatment units or facilities for alcoholism; the largest one, at the East Louisiana State Hospital, has approximately one hundred beds designed for alcoholics. See La. R.S. of 1950, 28:21.1. Under this program, the alcoholic is separated from other mental patients and given accelerated treatment. After leaving the hospital, the patient is followed up in an after-care program.

[32] La. R.S. of 1950, 13:1570(E), 1583.

[33] La. R.S. of 1950, 13:1572.

[34] The law provides that censorship of mail to state department institutions or attorney is not permitted. La. R.S. of 1950, 28:171.

[35] La. R.S. of 1950, 28:171. See Szasz, *Hospital Refusal to Release Mental Patient*, 9 Clev.-Mar. L. Rev. 220 (1960); Szasz, *Civil Liberties and the Mentally Ill*, 9 Clev.-Mar. L. Rev. 399 (1960); Szasz, *Civil Liberties and Mental Illness*, 131 J. Nervous and Mental Disease 58 (1960).

[36] See Analysis, Mental Hospitals in Louisiana (Sept. 1960).

[37] See New Orleans Times-Picayune, March 16, 1961, § 1 p. 1, col. 6. The National Institute of Mental Health recently awarded the Tulane Department of Psychiatry $375,000 to conduct studies on a selected patient population at the East Louisiana State Hospital.

The Joint Committee on Mental Illness and Health (representing thirty-six national organizations) following a five-year study has recently

reported "snakepit" conditions existing in mental hospitals in other parts of the country. Its study is reported in a 338-page book. Its investigation reveals patients chained to bedposts in one hospital; one psychiatrist for 6,000 patients in another hospital; and 4,000 mental patients occupying space meant for 2,000 persons in a third hospital. The committee proposes that no state hospitals of more than 1,000 beds should be built, laws should be changed to give preference to voluntary admission of patients, and the federal government should help states pay the bill for expanded mental aid, provided the individual states make the required reforms in their hospitals. See Newsweek, April 3, 1961.

The typical mental hospital, like the prison, is established in a remote part of the state, isolating the patient from the community. As a result, it has contributed to the "chronicity" of the patient. It perpetuates ostracism of patients and personnel. The advantages of community-based hospitals as a branch of the state hospital are discussed in Bloomberg, *supra* note 1.

[38] See La. R.S. of 1950, 28:96(C), (D); 15:267.

[39] See La. R.S. of 1950, 28:53. A mentally defective or epileptic minor committed by the juvenile court may be retained in the irstitution beyond the age of twenty-one years if the superintendent deems further detention necessary. La. R.S. of 1950, 28:60.

[40] See La. R.S. of 1950, 28:96(G).

[41] See La. R.S. of 1950, 28:96(E).

[42] See La. R.S. of 1950, 28:96(F).

[43] La. R.S. of 1950, 28:25.

[44] La. R.S. of 1950, 28:94.

Alcohol

Dr. B. F. Ward, President of the Mississippi State Medical Association, thus closes his elaborate address:

The people of the United States drink whiskey, and they are the most violent nation on earth. They rush to victory, and they rush to defeat—rush to success, and rush to failure—they are wild in stocks, corporations, monopolies and speculation—on inventions, new enterprises, gigantic schemes and gambling, from "keno" to cotton futures. There are more reckless infractions of law here than in any other part of the civilized world; more strange, monstrous and unaccountable destruction of human life, as parents killing children, and children killing parents; brothers killing brothers; husbands and wives killing each other; and lovers murdering sweethearts. Every newspaper in the land teems with recital of these horrors. This is particularly true of the New England States, and the cities of the North and West, where there is so much more alcohol consumed than among the agricultural classes of the Western and Southern States. * * *

The truth is, gentlemen, the brains of this nation are on fire with alcohol, both directly and by inheritance.

Transactions Miss. State Med. Association.
New Orleans M. & S. J. 10:457 (Dec.) 1882

A Primer to the Chemotherapy Of Advanced Carcinomatosis*

• A resume of some of the drugs used to combat carcinoma, together with an explanation of their chemical reaction.

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CHEMOTHERAPY in the treatment of advanced cancer is not new. Throughout the ages, physicians and charlatans have applied chemicals to the local lesions in the hope of destroying the tumor. It is only during the past ten years that the chemotherapeutic approach to the treatment of this disease has really made progress, thanks to the aid and stimulus of such organizations as the National Cancer Institute, the Damon Runyon Memorial Cancer Fund, Sloan-Kettering and others.

The administration of these chemotherapeutic agents has been primarily to those individuals who have already secured the maximum benefit from surgery and radiation therapy and for whom nothing else has hitherto been offered, except sedation, until their lives have been abbreviated. As yet none of these drugs have cured any cases, but when properly administered, have prolonged life and stimulated hope for appreciably long intervals.

In order to intelligently comprehend the manner of action of these various agents, it might be well to mention and define briefly a few of the newer concepts, as they apply to the metabolism of normal and cancer cells. Without this basic foundation it is impossible to understand the mechanism of these potent drugs.

Terms such as enzymes, viruses, genes, chromosomes, DNA and RNA take on new and extremely important stature. Numerous theories are appearing in the literature as to their significance in the relationship to life and growth.

* Presented to the Staff Meeting of Our Lady of Lourdes Hospital, Lafayette, La.

Origin of Enzymes

Enzymes are formed from living matter [1] or from highly complex systems obtained directly from living cells.[2] Every enzyme molecule formed, depends upon the pre-existence of an entire series of enzymes. Enzymes are defined as proteins with catalytic properties, capable of performing certain specific activities. These proteins are built from aminoacids and from various components in the synthesis of nucleic acid. These enzyme proteins make possible the ceaseless metabolic rounds under way in every cell through hundreds of biochemical reactions. Respiration, biological oxidations, fermentation and synthesis of many organic compounds required for growth, are but a few of the processes dependent upon enzymatic activity.

Substances upon which the enzymes act and which are activated by the enzymes are called substrates. The entire reaction is called enzyme-substrate complex. In the majority of cases, enzymes are so specific that they usually react only with a specific substrate alone. Excessive amounts of the substrate to the enzyme which do not participate in the reaction and "floods" the reaction, act as inhibitors of the enzyme. The action of an inhibitor plays an important role especially with some of the chemotherapeutic agents.

In a twinkling, enzymes perform chemical reactions that are very difficult and in many instances, impossible for the chemist to duplicate in the laboratory. There is a unique balance between the various enzymes involved in cell metabolism, whether normal or cancerous. No

apparent great differences have as yet been found between them. At present there are about 650 enzymes which have been isolated and purified. It is guessed that the number may be in the thousands.

Packed in the nuclei of each cell is the substance called desoxyribonucleic acid or DNA. It is the hereditary material of which genes are made. DNA is also found in many viruses, bacteria and cells of higher living forms. It is a giant molecule carrying all the necessary information for the organism's reproduction. Arresting its biosynthesis prevents cell division.[3] It is found chiefly in the nucleus of the cell. Ribonucleic acid RNA is found nearly entirely in the cytoplasm of the cell and is involved in protein synthesis.

Both of these substances are made up of chains of nucleotides having organic bases plus desoxyribose and ribose activity. They are made up of four essential bases, two of which are purines, namely adenine and guanine; and two pyrimidines, usually cytosine and thymine. The unique feature which characterizes the DNA of one type of living cell from another is the arrangement of these four basic units in the chemical chain.

Viruses

Viruses are composed of proteins and nucleic acid. The antigenic property of the virus resides in its protein component.[4] Different strains of viruses causing different diseases have been found to contain differing amounts of a given amino-acid.[5] Viruses do cause cancer in animals. Virus-like particles have been found by electron microscopy in leukemia [9] patients even though these viruses have not yet been isolated from the tissue. Suffice it to say, that the increasing evidence [10] points to the association of virus with disorganized cellular metabolism, perhaps as a result of enzymatic action. It is apparent that an interaction of viral nucleic acid and host cell nucleic acid takes place and that interference with or blocking of viral nucleic acid synthesis will require some type of agent that can inhibit this reaction.

There are so many different types of cancer, that one must postulate that there are numerous undiscovered cancer-producing viruses. There is no obvious immunologic reaction to cancer that we are aware of. Since viruses are protein-like substances, it seems strange that no method of detecting immunologic [6] antibodies, has been discovered. And yet, it is conceivable that the virus may remain dormant for long periods, without provoking growth until it is triggered by some chemical stimulus or defect.

Neoplasia is a state whereby a cell type of a multicellular organism has gone berserk, proliferating with no restraint in violation of the laws of homeostasis. This state can be brought about either by alteration in the host, best known in the domain of endocrine neoplasm, or by alteration in the cells. Either the homeostatic regulation is deranged or the cells are unable to respond to the restraint of the homeostatic forces.

The disruption of the laws of homeostasis may result from accidental mutation in the formation of DNA. A substance or new substrate is formed which produces abnormal cell division, and thus becomes labelled as a carcinogen. This new substrate may be produced by an inhibition of the enzyme needed in the build-up of DNA or the enzyme-forming system may have deteriorated or worn out. This is designated as enzyme depletion. Since each separate tissue has its own characteristic DNA formula, it is [7] easy to comprehend that a substance which will result in a violation of a law of homeostasis in one type of cell, may not do the same in another type. This, then, complicates the chemotherapeutic approach. What is more, it weakens the theory that all types of cancer are caused by one virus.

A beginning to the identification of the various enzymes and their quantitative presence in various tumors as compared with their normal cell origin, is being carried out. The Novikoff hepatoma is the model. Potter records many of the catabolic enzymes [8] that have been reported as low or missing in this type of hepatoma. What is more, the corresponding enzyme-

forming systems for these, are also not demonstrable. It is reasonable to suppose that an alteration in the DNA of a liver cell due to depletion of an enzyme or enzyme-forming system may result in changes of the cell division producing a variant or mutation cell, i.e. a cancer cell.

Characteristics of Anticancer Agents

For a drug to be useful as an anti-cancer agent, it must have the following desireable characteristics. First, it must have proven anti-tumor effectiveness, which should be of long duration,[8] while at the same time its toxicity should be absent or minimal. It should be easily soluble, with a definitely known rate of absorption and elimination, otherwise there would be an accumulation within the individual with disastrous results. It should also be adaptable to the several methods of administration and its effect upon the bone marrow predicted. Finally, it should be tolerated for a long period by the host so that repeated courses of treatment can be carried out as long as might be necessary.

Numerous substances have been studied for their effect upon the cancer cell. These may be classified according to their action as anti-metabolites, anti-folics, anti-pyrimidines, anti-purines, alkylating agents and antibiotics. In a separate category are classified the hormones and the steroids. Although no cures have been brought about by the use of these drugs, the value of chemotherapy in cancer has definitely established itself.

The following substances are the safest and most frequently used and typify the various methods of attack.

Folic Acid Antagonists

Of the folic acid antagonists, there are two in use today,[11] namely, methotrexate and aminopterin. These block the conversion of folic acid into folinic acid, which is important for [12] many biochemical reactions. Of the two, methotrexate is the drug of choice, especially in hormone producing tumors, such as the trophoblastic tumors. It may be given in doses of 25 mg. daily for four to five days. Used alone, it is of no value in testicular tumors and should be used in conjunction with chlorambucil. In this type of tumor, methotrexate may be given in a dose of 2.5 to 5.0 mg. daily and chlorambucil 10 mg. daily. The drugs are stopped only when symptoms of toxicity appear. Methotrexate [12] may also be used for arterial perfusions. As such it is given as a twenty-four hour drip and may be continued for five to ten days. The dose is 50.0 mg. of methotrexate in 2000 c.c. of saline. Because of the systemic leakage, it is advisable to give citrovorum factor every two to four hours, intramuscularly, to neutralize the systemic toxicity.

Only 6 mercaptopurine of the purine antagonists is being used at present. The purine antagonists have not availed much in solid tumors. They are very irritating and cannot be tolerated for long periods. It is used chiefly in the treatment of acute leukemia of children and in doses of 2.5 mg. per kilo per day orally. Its chief advantage is that unlike other drugs for this condition, it does not cause bloody diarrhea.

Antipyrimidines

The antipyrimidines are two in number, the 5 fluoro-uracil and the 5 fluoro-deoxyuridine. The latter is partially [13] converted into the former. It is less toxic and can be given in [14] larger doses, but the length of the courses of treatment is the same. These agents interfere in the enzymatic conversion of thymine into the formation of DNA. This inhibitory action in the DNA of cancer cells is its chief action and thereby prevents cell multiplication. The usual dose is 15 mgm. per kilo per day, intravenously only, for five days. It is then reduced to 7.5 mgm. and given every other day for 4 doses. In poor risk patients, this dose schedule must be modified. The antipyrimidines are particularly useful in breast, stomach and colon cancer.

Because these chemicals affect rapidly proliferating tissue, they also act upon bone marrow and intestinal mucosa. Hence the toxic manifestations are the results of the action upon these [15] tissues, i.e. leuko-

penia, nausea, vomiting and ulcerations of the gastrointestinal tract.

Alkylating Agents

There are various polyfunctional alkylating agents in use, the chief of which is nitrogen mustard. Besides its use in the leukemias and lymphomatas, it has also been used in carcinoma of the lung and ovary. The dose varies from 0.1 to 0.2 mgm. per kilo daily for 4 doses. Other various solid tumors such as melanoma have responded to the mustards. Creech and others [16] have used the alkylating agents in isolation perfusion technics, especially of the extremities with promising results. Pack and others have used the phenyl alanine mustard as a total body perfusion followed by marrow transfusion replacement. These results have not been very satisfactory, even though they were given to very poor risk cases. The drug is very toxic. Then again, the replacement of homologous marrow may contain circulating tumor cells, which would supposedly defeat the purpose of the administration.

Cytoxan is a relatively inert substance, given orally. It has a high safety factor and has fairly good tumor action. It is toxic to tumor cells and does not affect normal tissue to much degree.[12]

Chlorambucil in doses of 2 mgm. 3 or 4 times daily, orally, has been used in conjunction with anti-metabolites, in solid tumors as well as in the leukemias and lymphomas.

Triethylene melamine (TEM), n-ethylene phosphoramide (TEPA) and triethylene thio phosphoramide (Thio-Tepa) are other alkylating agents which have had extensive trials. They may be given orally, intravenously, intracavitary or intratumor. The dose varies with the portal of introduction.

Busulfan (Myleran) while used particularly in the leukemias, has been used also in the treatment of solid tumors as well because it can be given orally and without too much patient discomfort.

Antibiotics

Efforts at applying antibiotics in the treatment of solid tumors have been hindered because of the extreme toxicity of these agents. Among those that have been used are mithromycin and mitomycin C, which have been studied extensively in Japan, and sarcolysin, used by Larionov of Russia. Actinomycin D has shown real value in the Wilms's tumor, especially in the presence of lung metastases. Vincaleucoblastin, obtained from periwinkle, has been investigated by Hertz, but the results so far have been inconclusive.

Hormones

A brief reference may be made to the cortisone and the adreno-corticotropic hormone (ACTH) and the sex hormones, estrogen and androgen. The former are nonspecific and are used as adjunctive therapy. ACTH may be used in doses of 100 to 200 mgm. per day intramuscularly. Cortisone may be given orally or intramuscularly in [18] doses of 100 to 200 mgm. per day. The estrogens have proven useful in carcinoma of the prostate. It is administered as the diethyl-stilbestrol in 5 mgm. doses daily. In the late postmenopausal breast cancers, estrogens in large doses have healed recurrent ulcerations of carcinomatous breasts, as well as caused regression for varying periods. In the premenopausal and early postmenopausal period, the androgens serve best.

Toxic Reactions

Most of these agents, regardless of their method of action are potent and produce toxic reactions which consist of nausea, vomiting, diarrhea, alopecia and depression of the bone marrow elements. These reactions are mostly reversible when the drug is stopped. Should a tumor develop a drug resistance because a substitute enzymatic pattern has occurred, efforts should be made to apply another.

Hope which is the last resort of these unfortunate patients must not be destroyed and they must not be relegated to a diminished life of narcotics and despondency. Constant effort by dedicated students of this disease, hoping for eventual control, should be the aim and goal.

References

1. Dixon, Malcolm and Webb, Edwin C.: Enzymes. 1958, 2nd edition, Academic Press Inc., New York.
2. Today's Health: A.M.A., September 1960, p. 42.
3. Potter, Van R.: Federal Proceedings. Vol. 17, No. 2, July 1958, p. 691.
4. The Nature of Viruses: Ciba Foundation Symposium. 1957, Little, Brown & Co., Boston.
5. Virus Virulence and Pathogenicity: Ciba Foundation Symposium. Study group No. 4, 1960, Little, Brown & Co., Boston.
6. Carcinogenesis—Mechanisms of Action: Ciba Foundation Symposium. 1958, Little, Brown & Co., Boston.
7. Amino Acids and Peptides with Antimetabolic Activity: Ciba Foundation Symposium. 1958, Little, Brown & Co., Boston.
8. Curreri, A. R., M. D. et al.: Antineoplastic Effects of Fluoropyrimidines. A Scientific Exhibit. A.M.A. 1960.
9. Southam, Chester M., M. D.: Sloane Kettering Institute. Modern Medicine, Apr. 1, 1960, p. 71.
10. Stanley, Wendell M., Ph.D.: Virus Lab., U. of Cal., Berkeley. Modern Medicine, Oct. 15, 1958, p. 75.
11. Oleson, J. J., Ph.D. et al.: Advances in the Chemotherapy of Cancer. Special Exhibit. Modern Medicine, Nov. 1, 1954, p. 87.
12. Barchenal, J. H., M. D.: Memorial Center for Cancer and Allied Diseases. Modern Medicine, Apr. 1, 1960, p. 145.
13. Ansfield, F. J. and Curreri, A. R.: Proc. Am. Assoc. Cancer Research. 2:276 (Mar.) 1958 (Abst.).
14. Curreri, A. R. et al.: Cancer Research. 18:178 (May) 1958.
15. Ansfield, F. J.: Proc. Am. Assoc. Cancer Research. 3:5, 1959 (Abst.).
16. Creech, O., Jr.: Ann. Surg. 149:627 (May) 1959.
17. Bateman, Jeanne C., M. D. and Carlton, H. N., M. D.: Surgery. 47:895 (June) 1960.
18. Randall, Henry T.: Memorial Center for Cancer and Allied Diseases. Modern Medicine, Apr. 1, 1960, pp. 132 111.

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What Should Be Done With Insane Criminals

From the annual address to the State Medical Society Dr. Tyrrell, the late President, are taken the following pertinent remarks:

That our State Prison, as at present constituted, is not a proper place for the custody or confinement of these unfortunates is conclusively shown in the report of Dr. Pelham, formerly Physician of the Prison at San Quentin; in his report, for 1877 he says: "The prison is destitute of proper accommodations for the insane. * * * At present they are confined in cells in the main cell building, and are not separated from the other prisoners except by cell walls, and they often render nights hideous by their ravings, thus disturbing the sleep of others, and those who must labor during the day. To avoid this state of affairs, there is at present but one remedy—the dungeon—which has frequently to be used for this purpose. With the present accommodations for the treatment of such cases, results are unsatisfactory and remedial measures cannot be resorted to with reasonable prospect of success.

Pacific Med. and Surg. Jour., June.
New Orleans M. & S. J. 10:364 (Nov.) 1882

A Case Report of Primary Cardiac Sarcoma*

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MALIGNANT disease of the heart is quite uncommon. Primary malignancies of this organ are even more rare. In an excellent review of tumors of the heart in 1951, Pritchard [1] listed 113 cases of primary sarcomas reported up to that time. In this report only 5 had been diagnosed ante mortem. Chenz and Sutton,[2] in 1955, brought the total number of reported primary sarcomas of the heart up to 135. According to them, a diagnosis of primary cardiac malignancies had been made ante mortem only 6 times before. At that time, they reported the first one in which a correct ante mortem diagnosis had been made by angiocardiography.

In the past decade, great strides have been made in cardiac surgery. Perhaps it is not unreasonable to assume, to at least hope, that with such innovations as the extracorporeal circulatory unit and hypothermia even this heretofore inevitably fatal disease might in part be amenable to surgical cure.

With this in mind, we should like to give a case report of a primary sarcoma of the heart which was suspected before surgery, diagnosed by frozen section at operation, and, although too far advanced for surgical extirpation, treated with nitrogen mustard and x-ray. The patient survived almost eighteen months after presentation for treatment.

Due to the paucity of correct ante mortem diagnosis, there has been very little experience in treating these tumors. According to Lubschitz, Lundsteen and Forchhammer,[3] a good response to roentgen treatment of a metastatic reticular cell sarcoma was reported by Hsuing, F. Futu, Hsiehn and Lien in 1940. That x-ray treatment of a metastatic cardiac lesion was followed by definite improvement as characterized by EKG changes from abnormal to normal and by decrease in cardiac silhouette was reported by Shelburne and Aronson.[4]

We found no cases in the literature treated by nitrogen mustard. Because of the palliative value of this agent in other malignancies and since less actual swelling of the tumor seems to occur than with x-ray in some cases, we decided to antecede the roentgen treatment with nitrogen mustard.

Symptomatology

Perhaps we should comment briefly on the symptomatology of these tumors. This is certainly not specific and there are no pathognomonic signs. Most of the signs and symptoms when present are the result of mechanical interference with a section of the heart. For instance, superior vena cava syndrome may occur from a tumor blocking the right auricle. Various arrhythmias may be the heart's only complaint of invasion of its conduction system by unwelcome foreign tumor cells. Hemopericardium is not an infrequent finding. When this fluid is sterile, one's suspicion should be aroused. Tumor cells can be found occasionally in fluid from hemopericardium. Unusual configurations of the cardiac silhouette are sometimes encountered in this disease. A persistent heart failure, which does not respond to the usual antifailure regime, may be the only lead to correct diagnosis. Cardiac failure in the young subject without rheumatic or congenital heart disease should cause one to think strongly of this entity. Sometimes chest pain may be the lone presenting symptom. Age is no help in making diagnosis, for sarcoma of the heart has been reported in cases of 2 days

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to 79 years. Cardiac tamponade may ensue.

Report of a Case

On December 6, 1956, a 14 year old colored male presented himself to the Admitting Room at Confederate Memorial Medical Center, Shreveport, Louisiana, with complaints of pain in the left chest, left arm, and neck with exertion. The pain was also noted on deep breathing. The onset had occurred one week before. There was no history of weight loss, no cough and no hemoptysis. He had had a slight fever.

Past History—Usual childhood diseases. There was no history of injury or operations. There was no history of scarlet fever, rheumatic fever or diphtheria.

Central Nervous System—No history of convulsions, no syncope prior to admission.

Gastrointestinal—Appetite good, no diarrhea, no jaundice.

Genitourinary—No nocturia, no hematuria, no history of venereal disease.

Family History—There was no history of heart disease, kidney disease, goiter, malignancies or hay fever.

Physical Examination—Physical examination revealed a well developed, well nourished, colored youth in no acute distress. His skin and superficial structures were apparently normal. No pathology was noted on examination of head, eyes, ears, nose, and throat. There was no detectable neck vein distention and thyroid gland was not enlarged.

The lungs were clear to auscultation and percussion. Blood pressure was 98 60. There were no murmurs or thrills. A friction rub was heard on the left parasternal area in the 3rd intercostal space and on the right in the 2nd and 3rd intercostal spaces. Cardiomegaly was detected to anterior axillary line in the 6th intercostal space on the left. The liver, spleen and kidneys were not palpated. There was no tenderness in the abdomen. The extremities revealed no evidence of pathology. The genitals revealed no evidence of disease. The deep reflexes were physiological.

On date of admission, an EPA of the chest indicated an abnormal configuration of the left border of the cardiac shadow. The radiologist's impression included possibility of pericardial cyst with suggestion of work-up and included in his differential diagnosis, cardiac neoplasm. (Figure 1)



Figure 1.—Admission x-ray showing abnormal configuration of left border.

Laboratory work on admission revealed CBC and urinalysis to be within normal limits.

On December 7, 1956, fluoroscopy was performed and examiner thought that intrathoracic density noted on EPA previously was part of heart.

December 8th found patient with precardial pain. The friction rub was still present. One examiner noted on chart that there was no family history of tuberculosis or rheumatic fever. Patient was running a low grade fever and now had pulse of 112 per minute.

A pericardial tap revealed 250 cc. bloody fluid. This fluid was studied for cell count and malignant cells. A culture for acid-fast bacillus and fungi was planted. The smear revealed red blood cells, segmented neutrophiles with an occasional eosinophile and lymphocyte. The search for ma-

lignant cells was in vain and cultures were subsequently reported as negative.

On December 10, 1956, a sedimentation rate was 25 mm. at thirty minutes and 27 mm. at sixty minutes. On December 14, 1956, sedimentation rate was 26 mm. at thirty minutes and 29 mm. at sixty minutes. Three L. E. smears of peripheral blood were negative. A skin test (PPD #2) was positive. Prothrombin time was 16 seconds or 90 per cent of normal. A control was 14 seconds or 100 per cent normal. A blood urea nitrogen determination was reported as 11.6. Electrocardiograms run on December 7, 8 and 13 were reported as suggestive of pericarditis.

When cultures were reported as negative for tuberculosis, patient was scheduled for exploratory thoracotomy.

On February 11, 1957, patient was explored through the left fourth intercostal space. A tumor mass was found after pericardium was opened. Examination by frozen sections disclosed a malignant tumor growing as undifferentiated sarcoma. Further examination revealed sheets of round cells and spindle cells with probable cross striation. On these findings the diagnosis of rhabdomyosarcoma was made. (Figures 2 and 3). The major part of the mass seemed to involve the left part of the heart. Exploration revealed no masses in thymus, hilar region, or diaphragm. The rest of the thoracic cavity likewise contained no tumors.

The mass seemed to originate in the heart itself. The mass was entirely too extensive to lend itself to removal. After adequate biopsy was taken, the pericardium was closed loosely and chest closed with tube left in and attached to water bottle drainage system. Patient withstood procedure well but on first postoperative day became dyspneic and had what was thought to be left ventricular failure with acute cardiac dilatation. Rapid digitalization was attempted with no success. He gradually improved and on the 14th postoperative day, when he had recovered sufficiently from his failure, a course of nitrogen mustard was begun.

He was discharged on March 2, 1957,

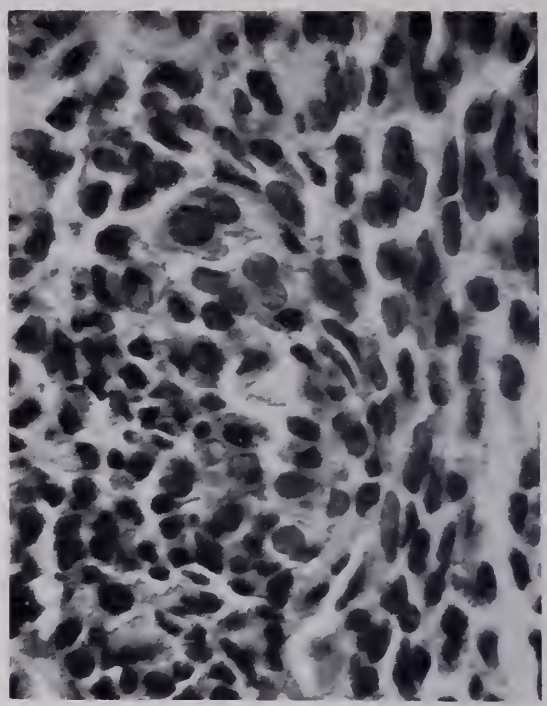


Figure 2.—Note both spindle cells and round cells.

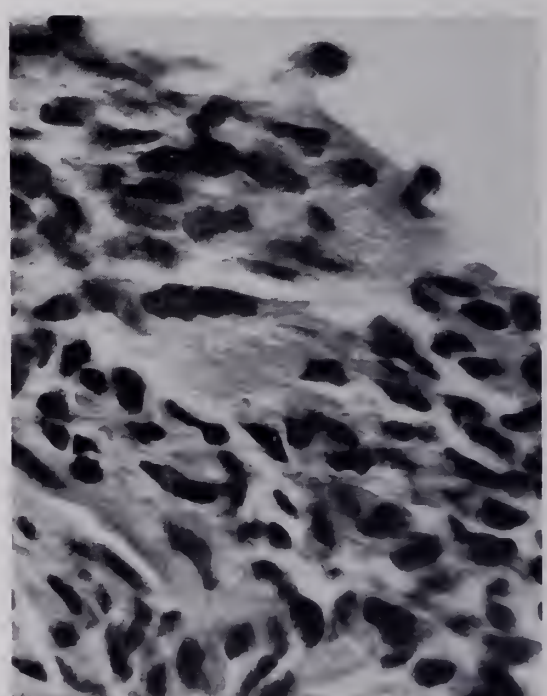


Figure 3.—Note round cells, spindle cells and possible cross striations.

to be given x-ray therapy as an out-patient. He was readmitted four days later with high fever. It was thought that he had pneumonia. This responded well to

antibiotics and he was discharged in eight days.

In March, 1957, patient received x-ray therapy. Two thousand three hundred roentgens in air were given through pericardial port, 18 by 18 cm. The same amount of x-ray was administered through a posterior port of same dimensions. This was given by 250 KV Thoraeus (III).

There was a lessening in size of the cardiac density and patient became symptomatically better. He became completely asymptomatic and heart rate became normal with a sinus rhythm. A note in tumor clinic record in December, 1957, revealed that he was still asymptomatic and going to school without difficulty.

A chest plate taken in January, 1958, on clinic visit, and reviewed at this time showed a mass in the left apex and another in the periphery of the left lung field which was thought to represent recurrence or metastasis. (Figure 4). At this time, this boy wanted to visit a sister in California. It was thought that he should be allowed to go in spite of delay in treatment. When next seen on January 27, 1958, he had a brassy cough with pain on deep breathing and with cough. A chest plate indicated further increase in size of density in left apex. He was given another course of deep x-ray therapy.

In April, 1958, x-ray revealed remarkable regression of lesion in left apex. (Figure 5) The following month, however, patient again began to have shortness of breath. At this time, an increase in density on the right seemed to encroach on cardiocephalic vessel. He was given 2,000 roentgens in air to the right parasternal area through a port 8 by 16 cm. in dimensions. This was given as 250 KV Thoraeus (III). He did fairly well for about a week after completing this course of x-ray. From then on, it was a downhill course. He began to complain of fullness in left neck and difficulty in swallowing. He also had pain in left shoulder and shortness of breath. His condition rapidly worsened and his demise came on May 29, 1958.



Figure 4.—Chest plate following surgery, nitrogen mustard and x-ray therapy, showing mass left apex and periphery left lung.



Figure 5.—Chest plate after second course of x-ray therapy.

An autopsy examination revealed a poorly nourished colored youth.

The left pleural cavity was partially obliterated and consisted of almost a solid

mass extending from the right edge of the mediastinum to the left axillary line. The mass included the heart and mediastinum and was adherent to the chest wall. On cutting it from the chest, numerous small fleshy pieces of tissue fell loose from the mass and into the pleural cavity. This mass extended up into the neck but was cut across at the level of the thyroid in order to remove it for pictures. The esophagus was compressed by the tumor mass but the mucosa was smooth and free of ulcerations or tumor. There was a 2 cm. mass in a portion of the right lung. There were many soft fleshy-like nodulations throughout the left lung. The heart weighed 610 grams. In the superior portion of the right auricle, there was a 3 cm. tumor mass bulging into the auricular cavity. At approximately the junction of the right ventricle and right auricle and extending into the intraventricular septum, was a flesh colored tumor mass which measured 3 cm. in diameter. This mass impinged upon the wall of the right ventricle and actually seemed to be a part of the intraventricular septum. The heart valves were remarkably free of involvement and all seemed to be intact and of approximately normal measurement. (Figure 6).

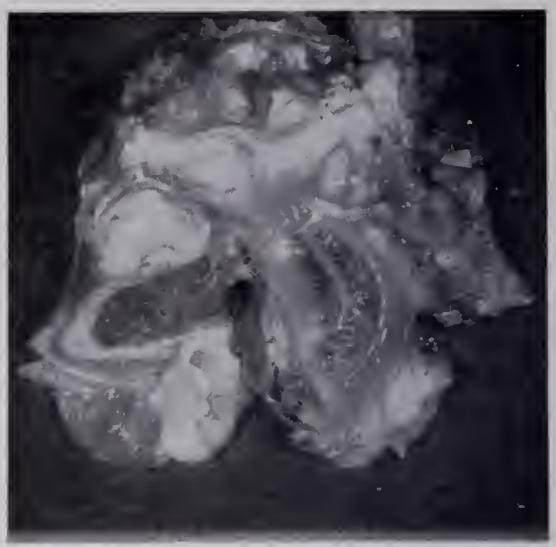


Figure 6.—Gross specimen of heart showing nodules of rhabdomyosarcoma.

Microscopic Examination

Metastatic lesions were found in the sections of the pulmonary artery, the parietal pleura and the mediastinal lymph nodes. The architecture of the lymph nodes was destroyed and replaced by the tumor. Sections of the lungs disclosed diffuse congestion and fibrosis. The alveolar spaces were filled up with pink-staining fluid and phagocytic cells. The walls of the alveolar spaces were thickened and in areas there were broad bands of fibrous connective tissue. The sections of the liver revealed chronic passive congestion. Sections of the tumor revealed sheets of round cells and spindle cells with probable cross striation.

Summary

In summary, this is a case report of a primary sarcoma of the heart which was suspected before surgery, diagnosed by frozen section during exploratory thoracotomy, and which when found too extensive for extirpation, was treated postoperatively with nitrogen mustard and x-ray. The patient lived approximately eighteen months after presentation for treatment. Most of this time was spent in relative comfort with only the last few weeks of life marred by pain and confinement to life of inactivity.

A perusal of the literature indicates that this is an uncommon tumor supported by the fact that Chenz and Sutton, in 1955, could find but 135 cases reported. This report stated that only six cases before had been diagnosed ante mortem. Their case was the only one that had been diagnosed by angiocardiography. A recent publication by Somers & Lothe,[6] includes review of literature until the present time and lists the total number of reported cases of primary cardiac cancer as 178. We could find no case in literature that has received both nitrogen mustard and x-ray therapy.

In addition, we express a hope that some of these tumors may be diagnosed early enough for complete extirpation by use of newer surgical adjuncts now available.

References

1. Pritchard, R. W.: Tumors of the Heart, Cancer. 2:245 (Mar.) 1949.

2. Chenz, Tsung O. and Sutton, Don C.: Circulation, 11:456 (Mar.) 1955.

3. Lubschitz, Karen; Lundsteen, Erling and Forchhammer, Eva: Radiology 52:78 (Jan.) 1949.

4. Shelburne, Samuel A. and Aronson, Howard S.: Tumors of the Heart. Report of a secondary tumor of the heart involving the pericardium and the Bundle of His with remission following deep roentgen ray therapy, Ann. Int. Med. 14:728 (Oct.) 1940.

5. Merrill, Wharton C.: Primary Malignant Tumors of the Heart: Report of a Case, Cancer 2:245 (Mar.) 1949.

6. Somers, K. and Lothe, F.: Primary lymphosarcoma of the heart, Cancer 13:449, 1960.

The Cloak of Socialism

Most people forget that *they* are government and that the *people must pay in taxes* for every appropriation *government* makes. The issues are fast being drawn. One of them is, will government dominate research or will private initiative be left a significant role? Another is, will prices of health products and many other products be regulated by competitive forces as they have been in the past or by government? A third is, will medicine remain a free profession or will it be forced to put on the cloak of socialism under gradual Federal encroachment? . . . As we pass into any program which is socialistic, we sacrifice the total well being, independence and dignity of the individual to the average well being of the masses, where people are leveled into mediocrity, with little independence and much sacrifice of dignity by the individual, just as has been done in Russia.—*Profits Insure Progress:* Francis Brown, President, Schering Corporation.

Proceedings Southern Society of Anatomists First Annual Meeting, Tulane University Nov. 3-4, 1961

Pigment cells as normal constituents of the leg muscle of mice.[1] **Willie M. Reams, Jr. and Thomas C. Mayer,**[2] Department of Zoology, Louisiana State University, Baton Rouge, Louisiana.

A detailed examination of mice from 11 major strains has shown that melanocytes occur in at least the musculature of the hind limb of all pigmented strains. The melanocytes are restricted mainly to the superficial muscles of the posterior compartment of the leg, with but few appearing toward the anterior aspect. An experimental analysis has shown these melanocytes to be of neural crest origin and that they invade the muscle via the skin. In all cases studied, the morphology of these melanocytes, with regard to shape (nucleofugal or nucleopetal) and color of melanin granules, conforms to the characteristics of the genotype of the respective strain. The fact that mamalian muscle provides a suitable environment for melanogenesis is significant. A possible node by which pigment cells leave the skin and colonize muscle will be discussed.

Segmental differentiation in the mammalian renal tubule. J. B. Longley, Department of Anatomy, Georgetown University Medical School, Washington, D. C.

The segmental differentiation of the renal proximal tubule in lower vertebrates has been studied extensively and is well known. That this phenomenon is also general in mammals is less well known, but has been documented in some detail for a number of species. The two segments in mammalian tubules correspond fairly closely with the configurationally recognized convoluted and straight segments. In addition to their difference in this respect, they can also be recognized on the basis of differences in details of cellular morphology, histochemical activity, and, indeed, on the basis of differences in function. These findings will be briefly reviewed and evidence presented, based on observations of the distribution in rat kidneys of various tracer materials, for the localization of several secretory and reabsorptive functions in the segments of the proximal tubule. In the case of a number of phenolsulfonphthalein dyes, and probably also with alanine, diodrast, and mercuric ion, secretion in the convoluted segment of the proximal tubule is followed by reabsorption in the straight segment.

Vitamin D deficiency and developing bone. B. R. Bhussry, Department of Anatomy, Georgetown University Medical School, Washington, D. C.

This investigation was designed to determine the influence of a rachitogenic diet on the developing membrane bones of the newborn rats (Birth—21 days). The Steenbock rachitogenic diet has a calcium-phosphorus ratio of 4-5:1 and, without vitamin D, produces rickets. Twelve adult female albino rats, depleted of their vitamin D stores were used for the experiment. Animals receiving nutritionally adequate diet were used as controls. Mating of rats in these groups was started. Upon determination of pregnancy, the females were removed to individual maternity cages. The newborn rats were sacrificed at three day intervals beginning from birth to twenty-one days post-natal. The heads were cut into two halves and fixed in 10% formalin (alcoholic) for twenty-four hours. Some specimens were decalcified, whereas others were not. These were processed by routine histological procedures. Serial paraffin sections were prepared at six microns in thickness, and stained by Von Kossa's silver stain and

[1] Supported by Grant 303-60 of the Greater New Orleans Cancer Assocation and by NSF Grant G-14153.

[2] Science Faculty Fellow of the National Science Foundation.

Mowry's procedure for acid and neutral polysaccharides. Micro-radiographs were prepared by using Philips CMR Unit. The Steenbock animals demonstrated excessive osteoid, which failed to undergo resorption. Retardation and disturbance in mineralization of bone was demonstrated by the lack of the Von Kossa reaction and the appearance of large radioluscent areas in contact micro-radiographs. The PAS and Mowry's procedure demonstrated a weak reaction.



No Finer Opportunity

Early in the Kefauver hearings, the subcommittee invited testimony from the Arthritis and Rheumatism Foundation. There followed appalling disclosures that some $250 million are spent each year by arthritics on useless quack cures . . . Considering the close attention of the press and public to these proceedings, never had a Congressional inquiry been handed a finer opportunity to launch a public crusade and mobilize national resources to stamp out criminal operatives in the health field. And what happened? Nothing. The investigators were far more interested in getting back to the assault on manufacturers of cortisone and its derivatives which have actually restored millions of cripples and potential cripples to useful, productive life.—*Report to the Nation:* Austin Smith, M. D., President, Pharmaceutical Manufacturers Association.

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Editorial

First National Congress on Medical Quackery

Under the joint sponsorship of the American Medical Association and the U. S. Food and Drug Administration, the First National Congress on Medical Quackery was held in Washington on October 6 and 7, 1961. Although various governmental and private agencies have been active more than half a century in exposing and prosecuting those who practice medical quackery, this is the first time that a combined undertaking has set out to publicize the situation which exists in this dark field of deceit and fraud.

The aims were to inform the public of its extent and danger and to bring about a state of public awareness, which would make possible more effective enforcement of laws, and, if need be, additional laws.

As to the extent that medical quackery exists, there should be no illusion. Voltaire said the first charlatan was born when the first knave met the first fool. However, few of the suffering and susceptible medical public realize the extent to which it is practiced.

Conservative estimates indicate that consumers spend more than a billion dollars a year on needlessly, falsely represented drugs and cosmetics, and these are presented to the gullible public by a hundred thousand smooth-talking charlatans. These work in the general fields of fake medical devices, pseudoscience and nutrition, false claims for drugs and cosmetics, and miscellaneous practices, such as chiropractic, illegal abortion, and various imposters in the psychological field. This quasi-medical underworld each year grosses an amount equal to one-half the annual sales of the legitimate drug companies. The largest single field is that of fake nutritional supplements, which amounts to about a half billion a year. The single field of quackery in arthritis treatments takes a quarter of a billion from six million arthritics.

The Department of Investigation of the American Medical Association, in operation more than fifty years, receives four thousand inquiries a year as to some phase

of charlatanism. To those who have some understanding of medicine and the processes of the human body, the question comes why do these people go to quacks? The answer is not simple. The slogan of a Texas Cancer quack opens the question: "The world is made up of two kinds of people—dem dat takes and dem dat gets took." A further explanation is that the individuals who have a perfection in wish, find that this leads them to wishful thinking and to quackery. So long as they are not satisfied quickly and easily through legitimate channels, they reach for a quicker method.

Two sets of circumstances support their own wishful thinking. One is the perfectly sound observation that faith and science work successfully together, but not separately. The other is that the advances of modern medicine, even over a period of one generation, are so surprising as to induce the uninformed public to believe in miracles.

The combined efforts of the agencies exposing and combatting quackery are even now retarding its evils, but they can be even more effective in cooperation. The governmental agencies are: the Food and Drug Administration, the Post Office Department, the Federal Trade Commission, and the State Boards of Medical Examiners. The national health organizations that have been long active in this field are: The American Medical Association, the Arthritis Foundation, the American Cancer Society, and Better Business Bureaus. Each agency that is active in restraining quackery has its own specialized problems. Where the fields overlap, improvement in prosecution is expected from cooperation. Each quack is thoroughly familiar with the law that pertains to his activity. He is aware of what loopholes, imagined or actual, there may be, and starts his defense before he is apprehended. For instance, most difficult to prosecute is the door-to-door "specialist" in the promotion of his particular product. The label, claims and direction on the package may be different from that in the brochure accompanying the package, and both may be entirely foreign to the promises, claims and hopes aroused by the spieler.

The company which makes the product may be further protected by having consigned the entire lot to the door-to-door salesman, disclaiming in advance any responsibility for whatever the salesman may do or say.

The areas in which the quacks are the most active are those in which the diseases are resistant or tedious to authentic medical treatment. Frequent among these are arthritis, cancer, hypertension, the problems of senescence, and the problems of the emotionally disturbed manifesting as somatic disease.

The Commissioner of Food and Drugs, George P. Larrick, says that the most widespread and expensive type of quackery in the United States today is the promotion of vitamin products, special dietary foods, and food supplements. These are promoted with the statements that most disease is due to improper diet; that soil depletion causes malnutrition; chemical fertilizers poison the land and the crops that grow on it; that certain wonder foods have wonder power; that certain types of cooking utensils are harmful to foods; and that processing in cooking removes nutritional values in food.

The facts of nutrition do not support these contentions when proper provision is made for vitamins and these will be sufficient in amount in the widely publicized balanced diet. It is stated by nutritionists that Americans actually have to go out of their way to avoid being well-nourished.

When any prospective patient or customer is invited to get the benefits of a bizarre and remarkable discovery, he should consult his physician before spending good dollars for poor advice. He may suspect a quack and beware:

"If a 'medical expert' uses a special or 'secret machine' or formula he claims can cure disease.

If he guarantees a quick cure.

If he advertises or uses case histories and testimonials to promote his cure.

If he clamors constantly for medical investigation and recognition.

If he claims medical men are persecuting him or are afraid of his competition.

If he tells you that surgery, x-rays, or drugs will cause more harm than good."

When any one of these features appears in the spiel he can hold his money, talk to his doctor, and investigate the scientific background in all medical offers by writing the American Medical Association, the Food and Drug Administration, the Post Office Department, the Federal Trade Commission, and the State or local health department or the state or parish medical society.

In the discussions following the Congress on Quackery, it was pointed out that prosecution would be easier if the Food and Drug Administration had the power to determine the efficacy of a drug offered to the public. The spokesman for the AMA, however, thought that the advantages of a legal provision of this sort would be minimal as compared to the grave disadvantage to the physicians and patients of the nation, to have so great and difficult a problem locked within the authority of one limited agency. The advantages for prosecution should be sought in other ways.

Reference to chiropractic as a part of the general picture was mentioned. Discussion of this field was apparently planned for the future. While chiropractic is illegal in this and three other States, statutory provision for its practice exists in the other forty-six. The secretary of the Federation of State Medical Boards Dr. Harold E. Jervey, Jr., said in effect that if only a small portion of the money spent on investigating the drug industry and other like groups had been available in the quackery area, the health and pocketbooks of the American people would have been far better protected.

The discussions of the Congress repeatedly demonstrated that the problem of quackery is widespread and deepseated in the problem of human irresponsibility and immorality. If the responsible portions of the American public can be brought to support properly the agencies which fight quackery, the help given will relieve at least in part the age old distress caused "By man's inhumanity to man."

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

1962 ANNUAL MEETING

The doctors of the Ouachita Parish Medical Society have already begun arrangements for the 1962 Annual Meeting which will be held in Monroe, May 7-9. Dr. Vincent J. Sampognaro has been appointed general chairman for the Meeting and Dr. Henson S. Coon, Councilor of the Fifth District, will serve as honorary chairman. The Virginia Hotel has been selected as headquarters, however the Frances Hotel, the Penn Resort Hotel and motels in the area have also offered facilities. Hotel reservations will be handled by a housing committee, of which Dr. S. R. Mintz is chairman, after January first.

Registration will take place and technical exhibits will be located in the Crystal Ball Room on the mezzanine floor of the Virginia Hotel. The meeting room on the roof of the Frances Hotel will also have table space for technical exhibits and the scientific exhibits will be placed in this room.

As in previous years, the opening meeting of the Society will occur on Monday evening, the House of Delegates will convene all day Monday and on Wednesday morning and the scientific sessions will take place all day Tuesday and Wednesday, with sessions alternating at the Frances and Virginia Hotels. The chairmen of

the various scientific sections are as follows and members who wish to present papers should communicate with these doctors at once.

Allergy—Dr. H. Whitney Boggs, Shreveport
Anesthesiology—Dr. John B. Parmley, New Orleans
Bacteriology and Pathology—Dr. Ambrose J. Hertzog, New Orleans
Chest—Dr. Frederick F. Boyce, New Orleans
Dermatology—Dr. Henry W. Jolly, Jr., Baton Rouge
Diabetes—Dr. M. W. Matthews, Shreveport
Ear, Nose and Throat—Dr. F. W. Raggio, Jr., Lake Charles
Eye—Dr. George S. Ellis, New Orleans
Gastroenterology—Dr. Murrel H. Kaplan, New Orleans
General Practice—Dr. E. A. Fatter, New Orleans
Gynecology—Dr. A. G. McHenry, Jr., Monroe
Heart—Dr. John E. Garcia, New Orleans
Medicine—Dr. Louis A. Monte, New Orleans
Neuropsychiatry—Dr. T. L. L. Soniat, New Orleans
Obstetrics—Dr. M. J. St. Romain, Jr., New Orleans
Orthopedics—Dr. Paul M. Davis, Jr., Alexandria
Pediatrics—Dr. R. L. Pavy, Lafayette
Public Health—Dr. H. E. Cannon, Covington
Radiology—Dr. H. M. Duhe, New Orleans
Surgery—Dr. Walter Moss, Lake Charles
Urology—Dr. T. A. Kimbrough, Lafayette

Social events are planned for Tuesday and Wednesday evenings and a golf tournament and fishing rodeo are also being arranged for members.

DOCTOR DIPLOMATS

During the Annual Meeting of the AMA House of Delegates this year a plan to cooperate in the recruitment of volunteer physicians for emergency service in the foreign mission field was approved. The AMA Department of International Health is seeking names of physicians who will volunteer to serve in the mission field on a temporary basis and cooperation has been received from agencies representing every religious denomination in the United States which sponsors medical missionaries.

Each physician who volunteers will be asked to complete an application form and this information will be used by the missionary agencies in considering qualifications of the applicant. The final choice as to the acceptability of each volunteer physician rests with the screening committees of the missionary agency.

The AMA has asked that members of the State Society be informed concerning this new program and physicians who are interested should write directly to the Department of International Health, American Medical Association, 535 N. Dearborn Street, Chicago, for additional data.

ATTENTION ALL MEDICAL ASSISTANTS . . .

The young and growing Louisiana Association of Medical Assistants is seeking more members and more parish chapters. Our basic objective is to improve the service of its members to physicians and to the public. The organization can aid the medical profession, particularly in the area of public relations.

Association objectives are:

* To form and coordinate local medical assistants associations whose aim shall be to hold meetings for individual and collective educational advantages by lectures, demonstrations, discussion, instruction and study.
* To inspire members to render honest, loyal and more efficient service to their professional employer and to the public which they serve.
* This organization is hereby declared to be non-profit. It is not, nor shall it ever become a trade union or collective bargaining agent.

The Louisiana Association of Medical Assistants is a component part of the American Association of Medical Assistants, an organization approved by the American Medical Association. URGE YOUR ASSISTANT TO JOIN. For information contact:

Mrs. Fleta D. Latham, President
Louisiana Association of Medical Assistants
3601 Harrison Street
Monroe, Louisiana

The above information should merit the attention of all doctors and especially their assistants who are eligible for membership in this association.

We believe membership in this organization has and will create greater interest in the care of the doctor's office and his patients, thereby, promoting closer cooperation and establishing better public relations for all concerned.

C. Grenes Cole, M. D.
State Chairman
Advisory Committee

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Jefferson	Third Thursday of every month	
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

SYMPOSIUM ON CARDIAC ARRHYTHMIAS

The University of Texas Postgraduate School of Medicine has announced a symposium on Cardiac Arrythmias scheduled for December 8, 9 and 10, 1961. The symposium will be held in the Texas Medical Center, Houston, Texas, and the program will be presented by three outstanding guest lecturers, augmented by a local faculty. The three guest lecturers are: Doctor Samuel Bellet, of Philadelphia, Doctor David Scherf, of New York City, and Doctor Paul Zoll, of Boston.

For further information, write: Office of the Dean, The University of Texas Postgraduate School of Medicine, 102 Jesse Jones Library Building, Texas Medical Center, Houston 25, Texas.

"HIGHROAD TO HEALTH" RADIO SERIES

The role of the family doctor in handling common medical problems arising in a family setting is the subject of a public service radio series starting soon over Station KSLO in Opelousas, Louisiana.

Called **Highroad to Health**, the series consists of thirteen fifteen-minute programs. It was produced by Lederle Laboratories in cooperation with the American Medical Association.

Each program opens with a ten minute dramatization of a health problem and its handling by a physician. This is followed by a five minute interview-discussion with a guest physician. Each program in the series features a guest physician from a different state.

Subjects to be covered in the series are mental health, hypertension, arthritis, the problems of aging, cancer, tetanus, nutrition, appendicitis, pneumonia, toxemia of pregnancy, first aid of severe cuts, streptococcal sore throat and accidental poisoning.

Dr. E. Vincent Askey, President of the AMA, has called Highroad to Health "an outstanding example of good radio programming with a purpose—the dissemination of authentic health information."

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next scheduled examination (Part II), written, will be held in various cities of the United States, Canada, and military centers outside the Continental United States, on Friday, January 5, 1962.

Current Bulletins may be obtained by writing to: Robert L. Faulkner, M. D., Executive Secretary and Treasurer, 2105 Adelbert Road, Cleveland 6, Ohio.

Diplomates of this Board are urged to notify the Office of the Executive Secretary and Treasurer of a change in address.

AUDITORY SCREENING FOR INFANTS

"Auditory Screening for Infants," a 15 minute, sound, color film has been produced by the Child Growth and Development Study of the Johns Hopkins University and the Division of Maternal and Child Health of the Maryland State Department of Health. The purpose of the film is to stimulate interest in an auditory screening technique for infants which is an effective procedure for early detection of hearing impairments and which may also indicate possible abnormalities in motor coordination and mental capacity.

Preliminary plans have been made to establish training institutes at Johns Hopkins for the purpose of teaching this auditory screening technique to physicians, nurses, and other professional personnel in speech and hearing.

The screening test shown in the film has been used in England for a number of years. It was developed by Sir Alex Ewing of the Department of Education of the Deaf, University of Manchester. In 1957 Dr. Janet Hardy, Director of the Collaborative Cerebral Palsy Project, Johns Hopkins University, sent Miss Anne Dougherty,

a public health nurse, to England to study with Professor Ewing. Since that time, Miss Dougherty has been in charge of the screening at Johns Hopkins. She is the producer of the film.

Medical officials have endorsed the test as a reliable and scientific method to screen infants and have recommended that the test be given as part of an examination of every infant by the time he is eight or nine months old.

"Auditory Screening for Infants" should be of interest to physicians, nurses, health departments, medical and nursing schools, schools of public health, and speech and hearing centers. The price of a print of this film is $130. The charge for preview or rental is $30, which can be applied to the purchase price. Copies of the guide to the film are provided. For information write Mr. John F. De Ley, Bureau of Preventive Medicine, Maryland State Department of Health, 301 West Preston Street, Baltimore 1, Maryland.

TWENTY-FIFTH ANNUAL MEETING THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

The twenty-fifth annual meeting of The New Orleans Graduate Medical Assembly will be held March 12, 13, 14 and 15, 1962, headquarters at The Roosevelt Hotel.

Nineteen outstanding guest speakers will participate and their presentations will be of interest to both specialists and general practitioners. The program will include fifty-five informative discussions on many topics of current medical interest, in addition to clinicopathologic conferences, symposia, medical motion pictures, roundtable lunches and technical exhibits.

Following the meeting in New Orleans, arrangements have been made for a clinical tour to the Eastern Mediterranean leaving New Orleans via air on March 16, to make a connection with jet flight leaving New York for Paris. The itinerary includes visits to Athens, Rhodes, Cairo, Luxor, Jerusalem and Tel Aviv, returning on April 6 to New York. (Optional extensions in Europe may be arranged).

Details of the New Orleans meeting and the tour are available at the office of the Assembly, Room 105, 1430 Tulane Avenue, New Orleans 12, Louisiana.

PHARMACEUTICAL MANUFACTURERS ASSOCIATION

September 13, 1961

Philip H. Jones, M. D., Editor
Journal of Louisiana State Medical Society
1430 Tulane Avenue
New Orleans, Louisiana

Dear Dr. Jones:

In behalf of our 140 members who manufacture prescription drugs, I wish to thank you for publishing the forthright editorial in your August issue, "The Kefauver-Celler Bill Would Hamper the Pharmaceutical Industry", in which you have brought to the attention of your many readers some of the threats to our free enterprise system that are contained in this proposed legislation. Physicians everywhere should be alerted to the ill effects this proposed legislation would have on the medical profession in retarding the discovery and marketing of new, and often life-saving, drugs. Likewise, the bill would give responsibility to the Secretary of Health, Education and Welfare for determining the efficiency of new drugs, and this carries the danger that a Government body would decide for physicians which they may and may not use. The harassment of the pharmaceutical industry through compulsory licensing, continual plant inspections, and the selection of product names by the Government is of less importance than this threatened loss of physicians' freedom to practice medicine with the drugs of their choice.

Sincerely,
Robert J. Benford, M. D.

COST OF MEDICAL CARE

Recent publicity and general concern over the rising costs of medical care have led to the formation of a special committee of the Calcasieu Parish Medical Society to investigate medical costs, working closely with other interested segments of the community, in an effort to explain such costs to the general public. This activity will be undertaken in close cooperation with the Louisiana Division of the Health Insurance Council, which is a group which represents insurance carriers and industry. The investigation is an outgrowth of meetings held by representatives of the Parish Medical Society and various leaders of local industry.

UNITED APPEALS CAMPAIGN

Sharing honors with the Southwest Louisiana Bar Association, the Calcasieu Parish Medical Society will sponsor a series of dinners for local businessmen and civic leaders as a contribution to the current United Appeals campaign in Calcasieu Parish. The local doctors feel that they should demonstrate their interest and concern in community-wide affairs of a non-medical as well as medical nature.

OPENINGS FOR DOCTORS AND MEDICAL PERSONNEL

Shreveport's Reserve 400 bed 114th Evacuation Hospital (Semimobile) now has openings for a number of qualified Louisiana doctors, nurses, Medical Service Corps Officers and hospital personnel, including technicians, cooks, and drivers. Those interested in further information may contact the Commanding Officer, Col. Henry A. King, Box 30, Veterans Hospital, or the Unit Advisor, 6100 St. Vincent Avenue, Shreveport.

BOOK REVIEWS

Medical Almanac 1961-62, Peter S. Nagan, comp. Saunders, c1961, 528 pp. $5.00.

The compiler states that his purpose is to bring together in one volume a wide range of descriptive and statistical material about the nonclinical side of medicine. The compiler has certainly succeeded in his purpose even though you may question his judgment in including certain facts. That it will serve as a useful tool for every medical library is without question, and particularly for hospitals or other small medical libraries where this type of information is not readily available.

Some of the material included seems hard to justify. Among these are: income tax information which is so readily available from other sources, U. S. postal rates, and a list of members of the U. S. Congress, to mention a few. The historical facts are so superficial as to be almost valueless. The vital statistics are too general to be of real value, but since the sources are given anyone interested could pursue these figures further. The compiler would probably have served his purpose better if he had limited his facts to the medical field. As a whole, this book will prove a helpful tool for any medical library.

W. D. Postell, M. D.

Handbook of Poisoning: Diagnosis and Treatment; by Robert H. Dreisbach, ed. 2. Los Altos, California. Lange Medical Publications. 1959. 474 p. $3.50.

The pocket sized handbook makes an excellent presentation of the problems involved in poisonings. Though necessarily brief because of the format and indicated purpose of the book, there is systematic treatment of material at hand. Especially to be commended is section I which covers the Emergency Management, Supportive Therapy, Diagnosis and Evaluation and the Physicians Legal and Medical Responsibility in Poisoning. The latter is seldom covered and is most important.

The recommendation is made that all physicians carry a stomach tube and a 4 ounce irrigating syringe in their bags at all times. The book should form a welcome addition to the medical student and physician's library.

R. J. Muelling, Jr., M. D.

Atlas of Obstetric Techniques; by J. Robert Willson, Mosby, 1961, 304 p. Reg. ed. $12.50, Illustrated ed. $14.50.

Dr. Willson's book is a well-written treatise on obstetrical technique. Since the book is intended as a guide to labor and delivery, not as a basic textbook, he makes no attempt to discuss operative obstetrics in detail. His objective is certainly attained with the excellent illustrations and accompanying descriptions. The drawings of the various breech presentations and extractions, as well as forceps rotations are especially well done.

The book is a practical and comprehensive atlas for any general practitioner or obstetrician-gynecologist.

J. DeCenzo, M. D.

Clinical Disturbances of Renal Function; by Abraham G. White, W. B. Saunders Company, Philadelphia, 1961, P. 468. $10.50.

The book, as a whole, is well written and accomplishes the author's avowed purpose to help "the practising physician confronted with a patient whose kidneys are not functioning normally".

The material covers a tremendous scope in attempting to correlate clinical signs and symptoms with physiological considerations. The research renal physiologist would find sections on countercurrent theory and transport systems simplified to a degree but understandable to the general clinician. The figures and graphs are excellent although, in some instances, too schematic.

The organization of the text in discussing a disease, its symptoms, diagnosis and treatment also makes for a very coherent study of an individual malfunction. The section on genetically induced renal dysfunction is particularly well summarized.

There is only a regret that the appendix on renal transport mechanisms could not have been further amplified as a chapter in the main text.

In summary, the book presents a useful reference for any physician and is equally good in certain sections for more specialized study.

Roberta M. O'Dell, Ph.D.

PUBLICATIONS RECEIVED

Grune & Stratton, N. Y.: A Manual of Neurology and Psychiatry in Occupational Medicine, by Ralph T. Collins, M. D.

The C. V. Mosby Co., St. Louis: Appraisal of Current Concepts in Anesthesiology, by John Adriani, M. D.; Rehabilitation of a Child's Eyes, by Herbert M. Katzin, M. D., and Geraldine Wilson, R.N. (3rd edit.); Medical Physiology, edited by Philip Bard (11th edit.).

W. B. Saunders Co., Phila.: The Stages of Human Development before Birth; An Introduction to Human Embryology, by E. Blechschmidt, M. D.; Introduction to Anesthesia: The Principles of Safe Practice, by Robert D. Dripps, M. D., James E. Eckenhoff, M. D., and Leroy D. Vandam, M. D. (2nd Edit.); Mechanisms of Disease; An Introduction to Pathology, by Ruy Perez-Tamayo, M. D.

Charles C Thomas, Publisher, Springfield, Ill.: Scientific Exhibits, by Thomas G. Hull and Tom Jones; Sir William Osler Aphorisms, collected by Robert Bennett Bean, M. D., edited by William Bennett Bean, M. D. (2nd printing).



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Lomotil brings prompt symptomatic control in diarrhea, either acute or chronic.

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USUAL ADULT DOSAGE: 1 or 2 capsules 3 or 4 times a day.
SIDE EFFECTS: Panmycin Phosphate has a very low order of toxicity comparable to that of the other tetracyclines and is well tolerated clinically. Side reactions to therapeutic use are infrequent and consist principally of mild nausea and abdominal cramps.
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drugs anonymous

One of the several hastily conceived and potentially dangerous suggestions for reducing drug costs is generic-name prescribing. The proponents of generic-name prescribing claim that it will lower drug costs significantly and—through supervision by the Federal Government—provide quality equivalent to that of trademarked drugs. We maintain that these claims are false. Here are some authoritative answers to the principal questions posed by generic-name prescribing.

How much money would be saved if all prescriptions were written for generic-name drugs?

"The [Rhode Island] Division of Public Assistance examined 10,000 drug prescriptions for welfare recipients for the purpose of determining the actual savings . . . of generic versus trade-name drugs. The drugs had cost $28,000. Substituting generic drugs whenever possible would have provided a saving of less than 5 per cent. Syracuse has made a similar study of drug costs with comparable results."

Rhode Island Medical Journal,
January, 1961

Are the savings worth the risk of sacrificing quality?

". . . it is unsafe [to prescribe generically] because there is not sufficient policing of our standards. . . ."

Lloyd C. Miller, Ph. D.
Director of Revision of the U.S.P.

"The naive belief that, if a product was not good, the FDA would prohibit its sale is just not realistic. . . . it is completely impossible for the FDA to check every batch of every product of every manufacturer. . . . Hence the integrity and reputation of the manufacturer assume unusual significance where drugs and health products are concerned."

Albert H. Holland, M.D.
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Put your low-back patient back on the payroll

Soma relieves stiffness —stops pain, too

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YOUR RESULTS: With pain relieved, stiffness gone, your patient is soon restored to full activity—often in days instead of weeks.

Kestler reports in controlled study: *Average time for restoring patients to full activity: with Soma, 11.5 days; without Soma, 41 days. (J.A. M.A. Vol. 172, No. 18, April 30, 1960.)*

Soma is notably safe. Side effects are rare. Drowsiness may occur, but usually only in higher dosages. Soma is available in 350 mg. tablets. **USUAL DOSAGE: 1 TABLET Q.I.D.**

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New Win-Codin tablets provide greater symptomatic relief from influenza, colds and sinusitis than do simple analgesic-antihistamine combinations. New Win-Codin tablets contain a full complement of the most effective agents available to relieve general discomfort, bring down fever and lessen congestive symptoms.

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Each 100 cc contains:

Sulfadiazine (Microcrystalline)	3.381 gm.
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In a palatable, stable emulsion pleasantly flavored with True Raspberry Flavor. Each average teaspoonful (80 min.) represents .5 gm. (7.7 grs.) of three combined sulfa drugs in suspension. Supplied in pint bottles only.

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Each tablet represents:

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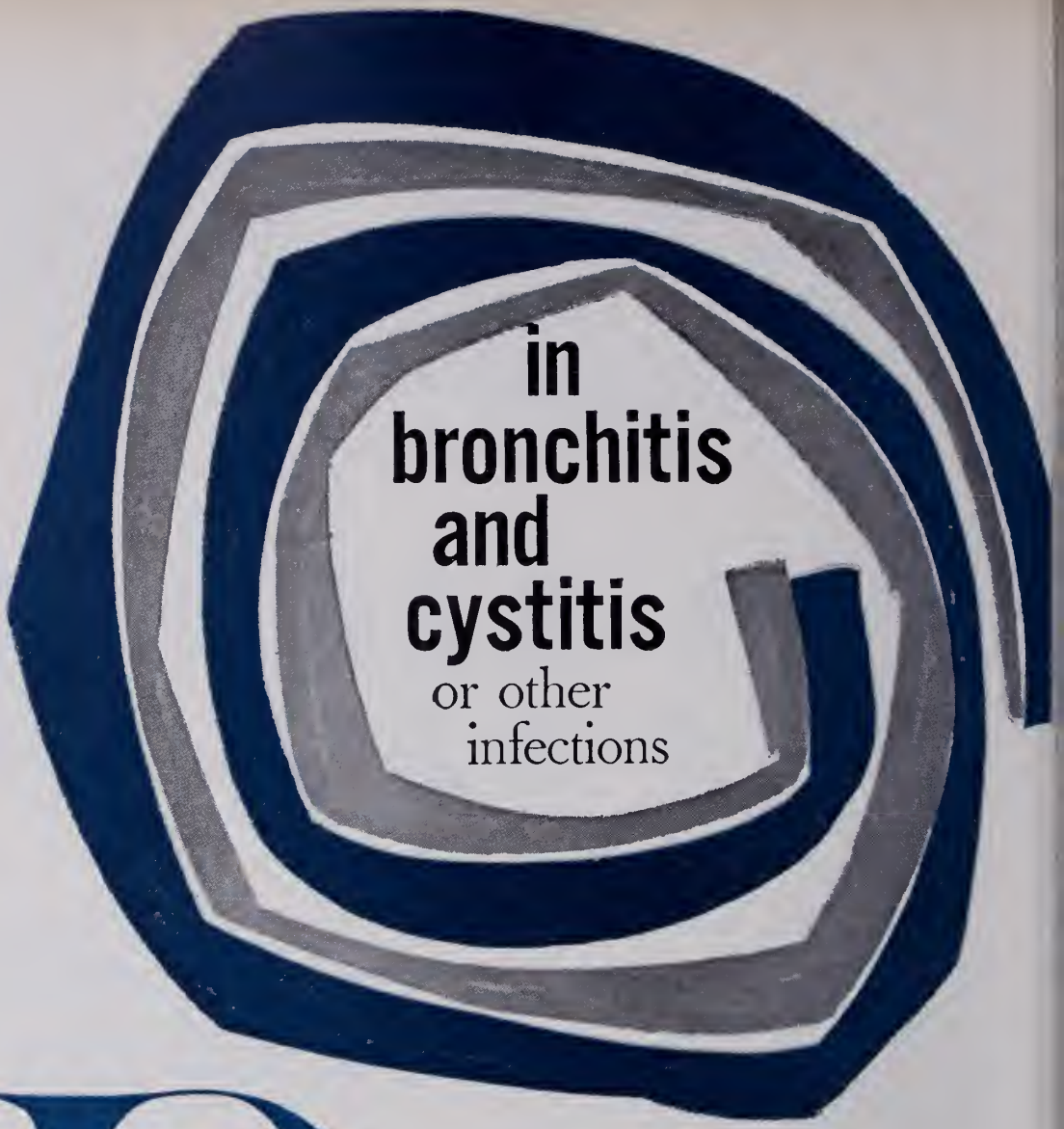
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PEDIATRIC DROPS, 60 mg./cc. in 10 cc. bottle with calibrated, plastic dropper. *Dosage:* 1 to 2 drops (3 to 6 mg.) per pound body weight per day—divided into four doses.

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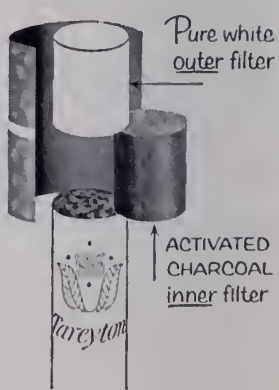
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(1) Danowski, T. S.: Diabetes Mellitus, Baltimore, Williams & Wilkins, 1957, p. 239. (2) McCune, W. G.: M. Clin. North America 44:1479, 1960. (3) Ackerman, R. F., et al.: Diabetes 7:398, 1958.

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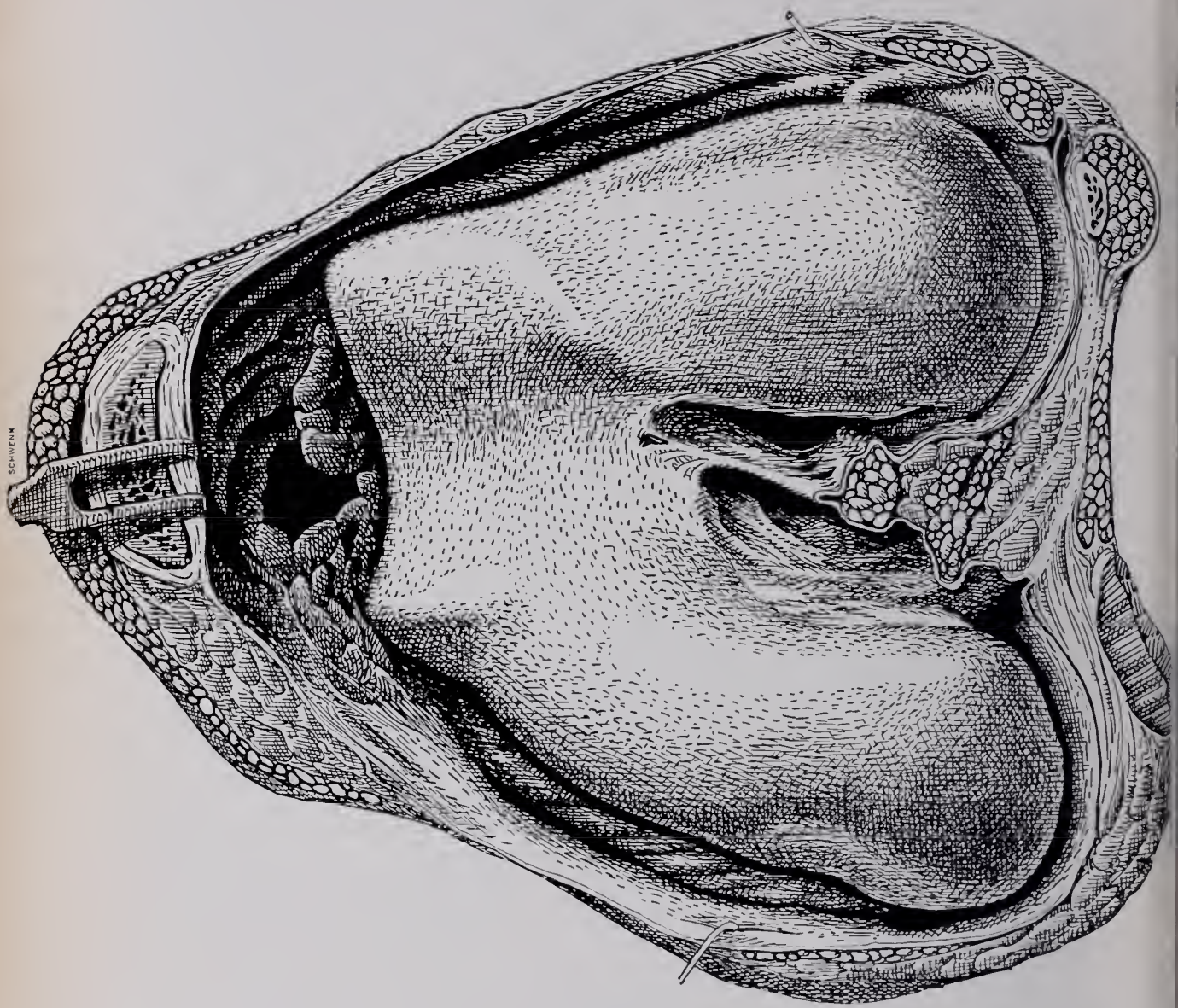
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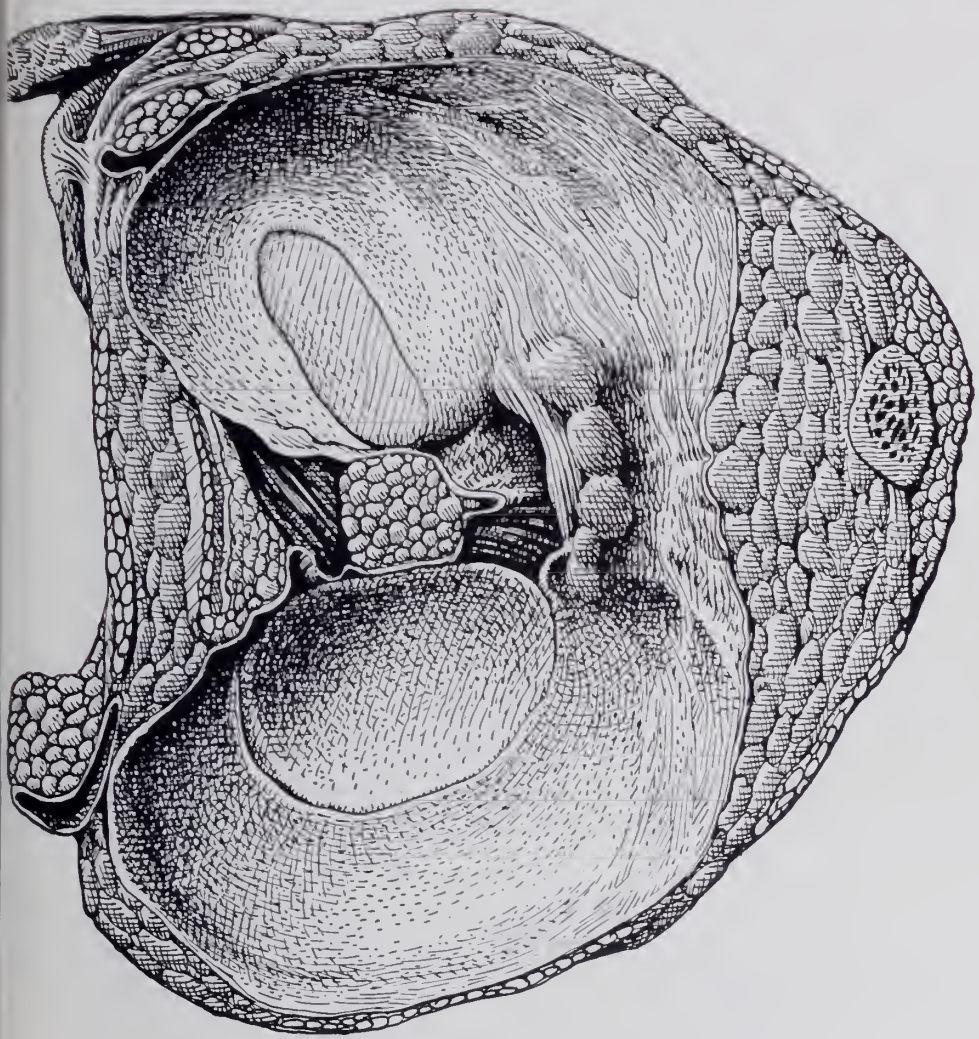
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1. Youmans, J. B.: Am. J. Med. 25:659 (Nov.) 1958

cardiac diseases "Who can say, for example, whether the patient chronically ill with myocardial failure may not have a poorer myocardium because of a moderate deficiency in the vitamin B-complex? Something is known of the relationship of vitamin C to the intercellular ground substance and repair of tissues. One may speculate upon the effects of a deficiency of this vitamin, short of scurvy, upon the tissues in chronic disease."[2] 2 Kampmeier R H Am J Med 25:662 Nov) 1958

arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]
3 Fernandez-Herlihy, L Lahey Clinic Bull 11 12 (July-Sept) 1958

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W H Am. J Med 25 673 (Nov) 1958 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition. National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57

degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser W. and Fong T.C.C in Stieglitz E J Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . .There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]
8 Duncan G G Diseases of Metabolism 4th edition W B. Saunders, Philadelphia, 1959, p. 812 9. Pollack, H : Am J Med. 25:708 (Nov.) 1958.

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1. Roth, J.L.A. and Bockus, H.L.: Aerophagia—Med. Clin. N. Am. *41*:1673 (Nov.) 1957
2. Alvarez, W.C.: Gas in the Bowel: An Introduction to Gastroenterology; Paul B. Hoeber, Inc. Alvarez, W.C.; Syndrome of Reverse Peristalsis: Ibid
3. Barondes, R. de R. et al: The Silicones in Medicine. Mil. Surg. *106*:378, 1950
4. Cutting, W.: Toxicity of Silicones. Stanford M. Bull. *10*:23 (Feb.) 1952
5. Dailey, M. and Rider, J.: Silicone Antifoam Tablet in Gastroscopy. J.A.M.A. 155:859 (June) 1954
6. Rider, J.A. and Moeller, H.C.: Use of Silicone in the Treatment of Intestinal Gas and Bloating. J.A.M.A. *174*:2052 (Dec.) 1960
7. Rider, J.A.: Intestinal Gas and Bloating: Treatment with Methylpolysiloxane. Am. Pract. & Digest Treat. *11*:52 (Jan.) 1960

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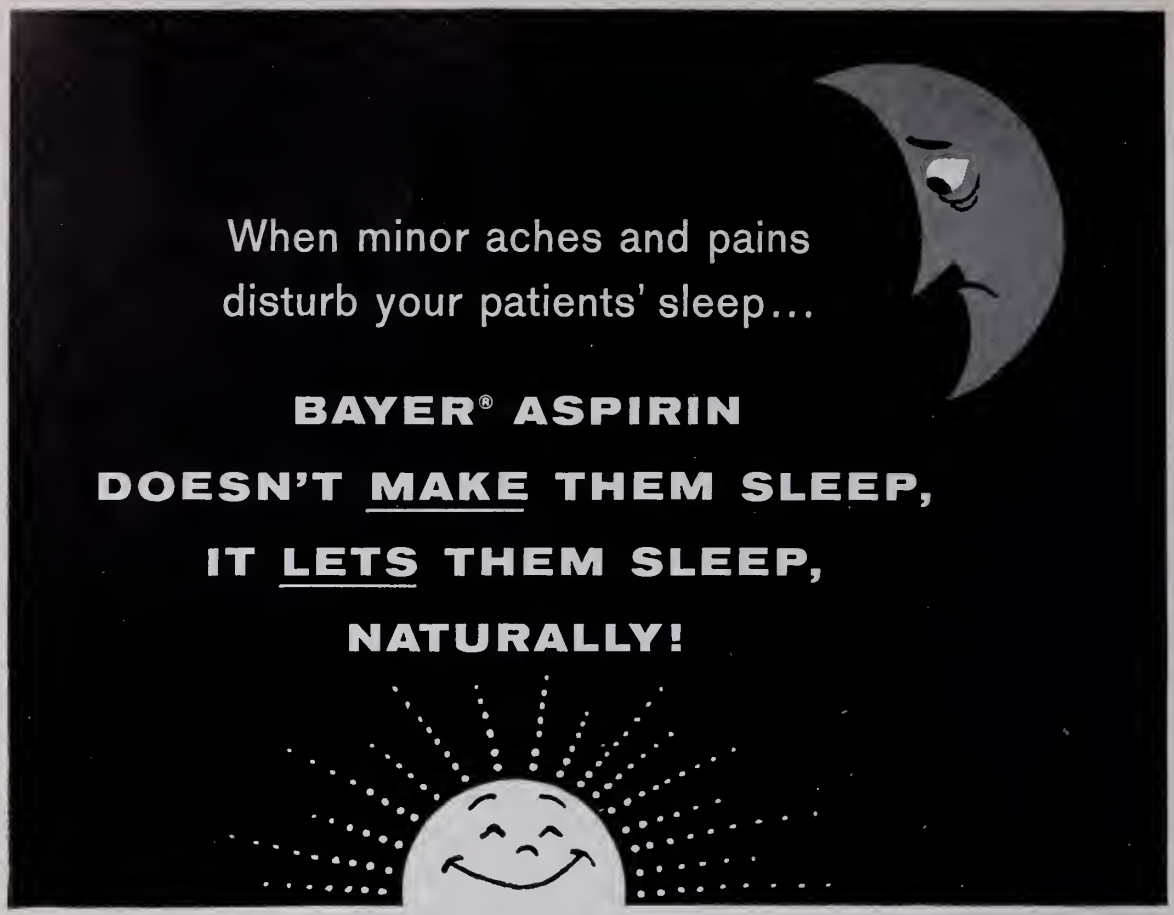
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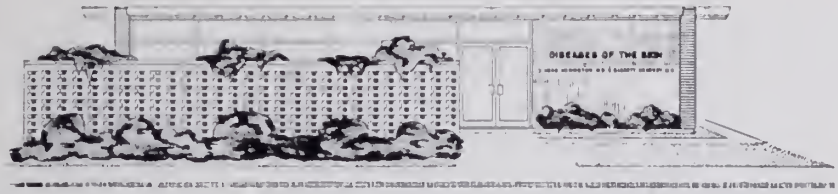
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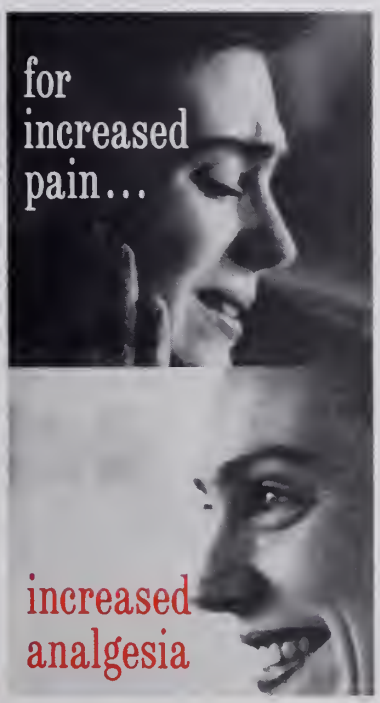
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Neurology

Ralph C. Benson, M. D., Portland, Ore.
Obstetrics

V. A. Byrnes, M. D., St. Petersburg, Fla.
Ophthalmology

John H. Moe, M. D., Minneapolis, Minn.
Orthopedic Surgery

A. C. Furstenberg, M. D., Ann Arbor, Mich.
Otolaryngology

Jeff Minckler, M. D., Denver, Colo.
Pathology

Lewis L. Coriell, M. D., Camden, N. J.
Pediatrics

Robert D. Moreton, M. D., Fort Worth, Tex.
Radiology

J. H. Mulholland, M. D., New York, N. Y.
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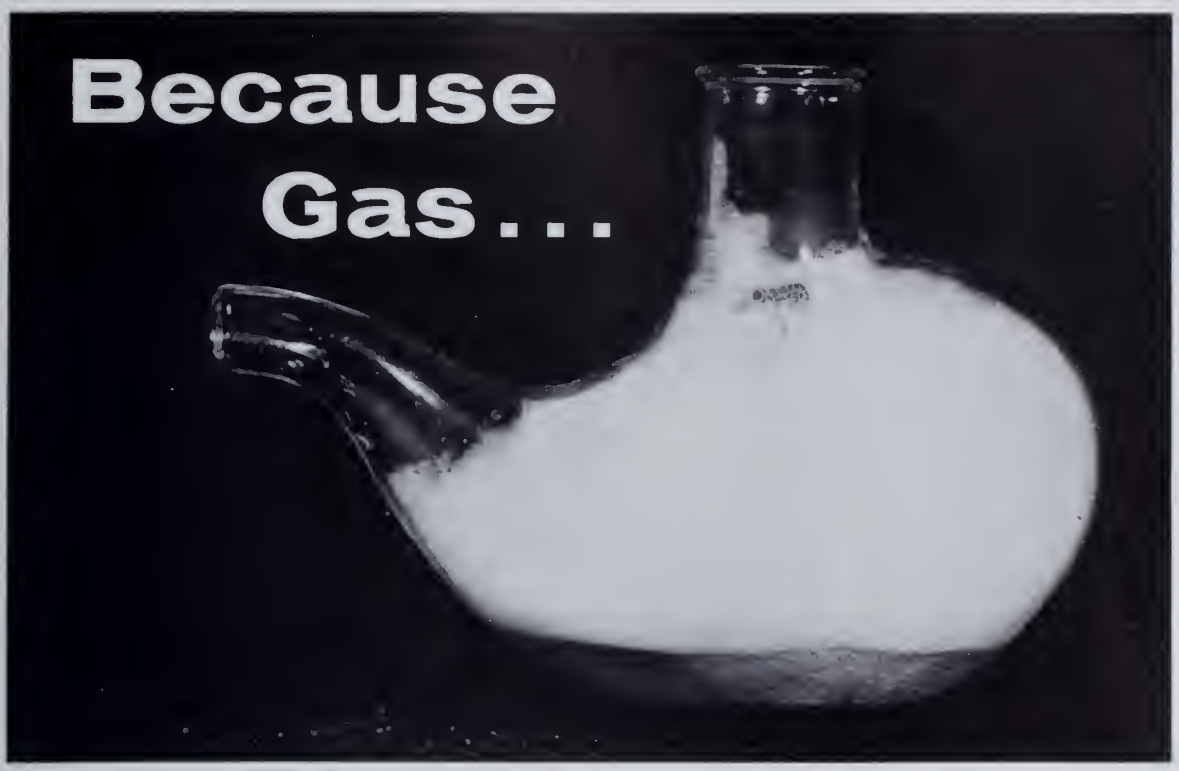
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References: (1) Malone, F. J., Jr.: *Mil. Med.* **125**:836, 1960. (2) Martin, W. J.; Nichols, D. R., & Cook, E. N.: *Proc. Staff Meet. Mayo Clin.* **34**:187, 1959. (3) Ullman, A.: *Delaware M. J.* **32**:97, 1960. (4) Petersdorf, R. G.; Hook, E. W.; Curtin, J. A., & Grossberg, S. E.: *Bull. Johns Hopkins Hosp.* **108**:48, 1961. (5) Jolliff, C. R.; Engelhard, W. E.; Ohlsen, J. R.; Heidrick, P. J., & Cain, J. A.: *Antibiotics & Chemother.* **10**: 694, 1960. (6) Lind, H. E.: *Am. J. Proctol.* **11**:392, 1960.

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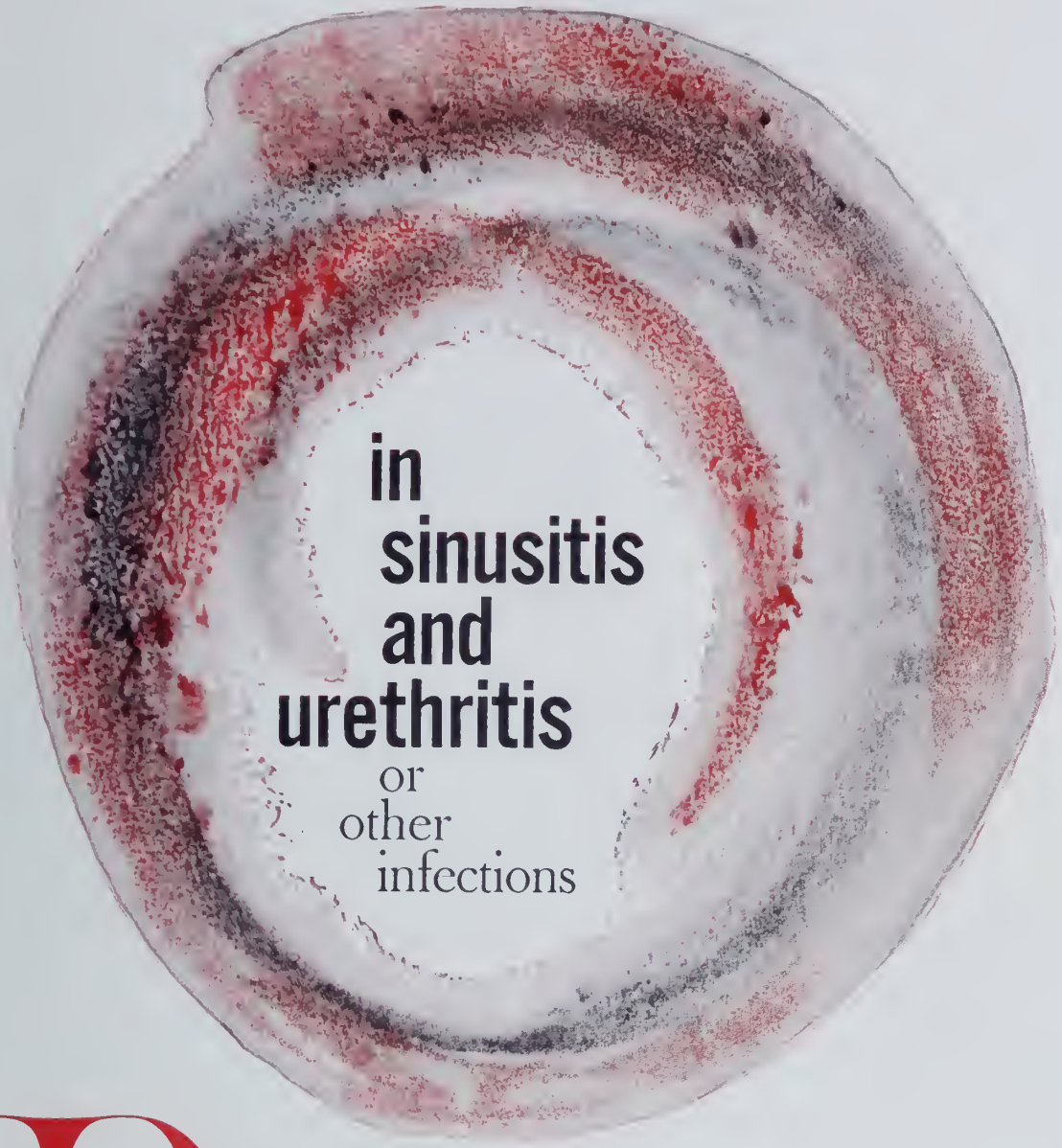
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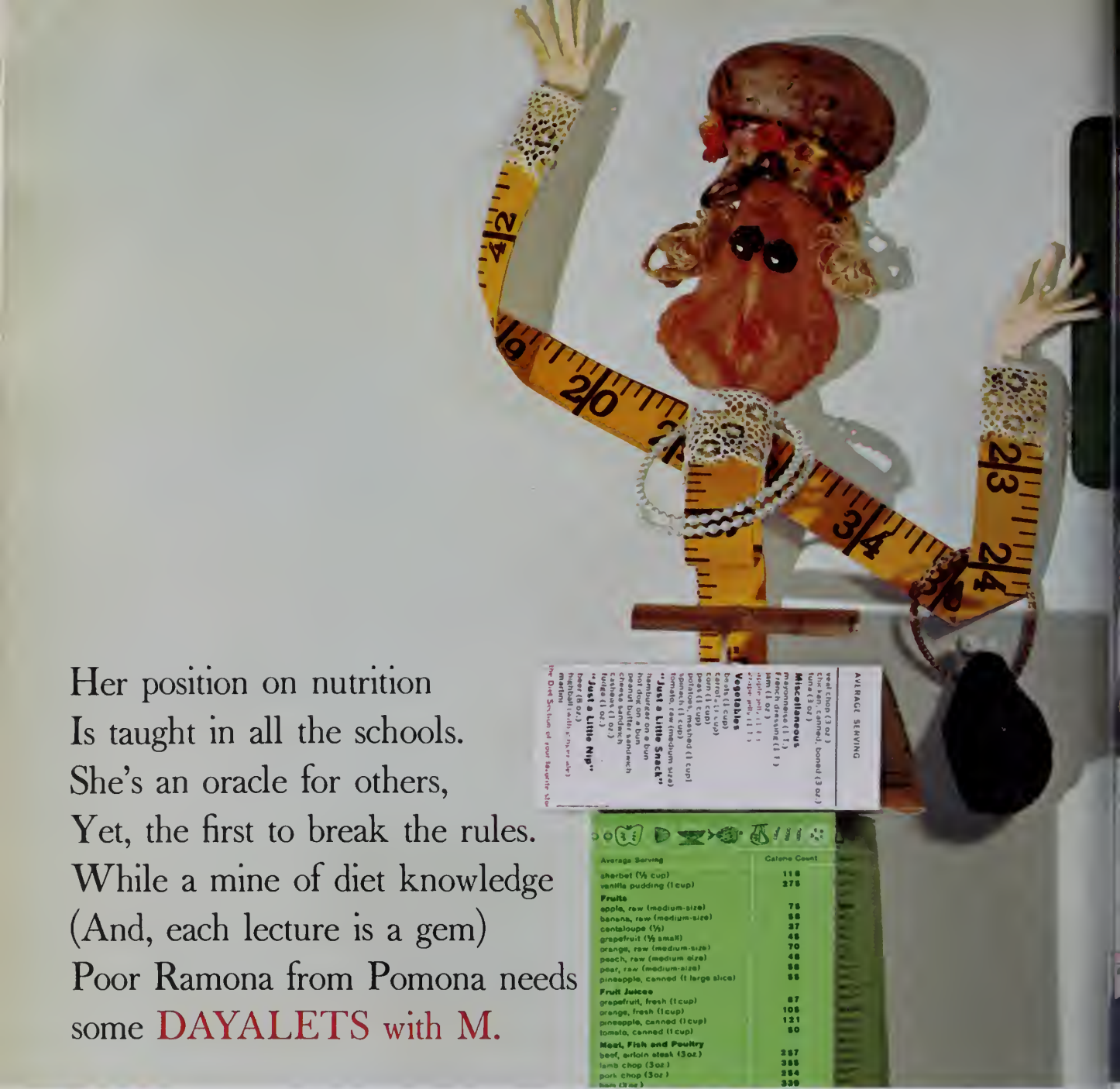
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1. Barden, F. W., et al.: J. Maine M. A. 46:99, 1955.
2. Ford, R. A., and Blanchard, K.: Journal-Lancet 78:185. 1958.

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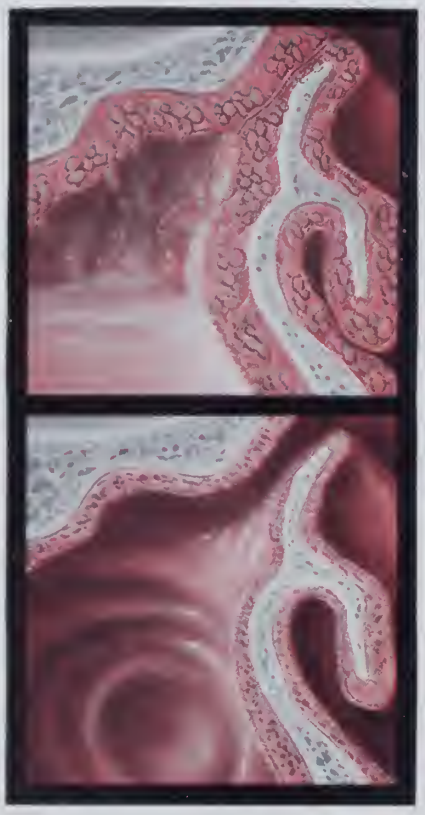
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1. Grant, L. E.: Coryza and nasal sinus infections, **Clin. Med. & Surg.** 42:121, March, 1935. 2. Putney, F. J.: Sinus infection, in Conn, H. F. (Ed.): Current Therapy 1952, Philadelphia, W. B. Saunders Company, 1952, p. 110. 3. Simonton, K. M.: Current treatment of sinusitis, **Journal-Lancet** 79:535, Dec., 1959.

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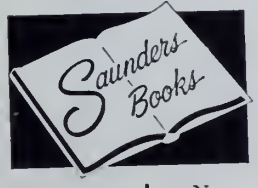
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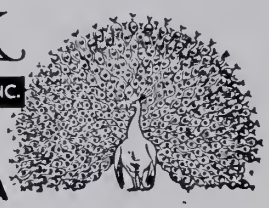
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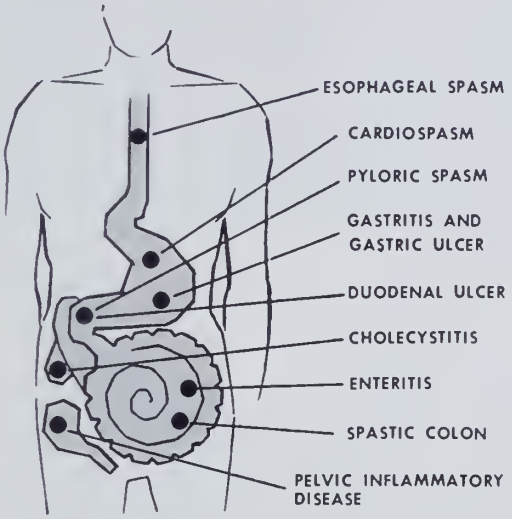
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DECEMBER, 1961

Published Monthly
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Progress in Prostatectomy*

• A scholarly presentation of a subject of interest to the specialist and the general practitioner.

THOMAS E. GIBSON, M. D.†
San Francisco

Introduction

THE care of patients suffering from urinary obstructions caused by prostatic disease has always held an important place amongst the obligations of *general practice.* Today it is becoming a problem of increasing magnitude because of the ever enlarging proportion of our population attaining longevity as a result of the great advances in the last fifty years in all branches of medical science.

It is a remarkable phenomenon that mankind should have remained in *absolute ignorance* for so long regarding a part of the body liable to such important and devastating pathological changes as the prostate gland. *Phylogenetically,* the prostate is a very *old* gland. It developed far back in the process of evolution. Even the lowly earthworm has a well developed prostate gland. Yet, mankind knew nothing of its existence until the 16th century. Then the classic authors described "excresences" and "carnosities" at the bladder outlet, but that was the extent of their knowledge.

On looking at the records it is amazing to find that prostatectomy is an operation of very recent times. It is pretty much a 20th century development.

Etiology

The cause of benign prostatic hypertrophy is not known. However there is abundant evidence that *endocrine* factors play an important etiological role. This theory is supported by the fact that *eunuchs,* castrated before middle life, do *not* develop prostatic enlargements. I do not know if castration would also prevent cancer of the prostate. However, I think it would if done early enough in life. Cancer of the prostate is increasingly prevalent after the age of fifty, so much so that Doctor Hugh Young once remarked that any man who lives long enough will develop the disease. We do know as a result of Huggin's work that the gonads do have a *tremendous endocrine* effect on the evolution of prostatic cancer. Castration *after* middle life does

* Lecture given at the Twenty-fourth Annual Meeting of the New Orleans Graduate Medical Assembly, March 6-9, 1961, New Orleans.

† Assistant Clinical Professor of Urology, University of California School of Medicine; Chief, Department of Urology, Southern Pacific Hospital and St. Joseph's Hospital, and Civilian Consultant in Urology, Letterman Army Hospital, San Francisco.

not have any worthwhile effect on benign prostatic hypertrophy but it *does* have a definite retarding effect on prostatic cancer. So much so in fact that a few patients I have followed for fifteen or more years have now no more evidence of cancer. Unfortunately, in the majority of cases the benefit is not permanent.

Symptoms and Diagnosis

A misleading situation arises when we have a patient with silent prostatism. The patient may deny any urinary symptoms and complain only of general lassitude, loss of appetite, weakness, headache, diurnal somnolence and constipation. All experienced urologists are familiar with the old gentleman who, in spite of a chronically overdistended bladder which necessitates the unbuttoning of his top trouser button, complains only of wetting the bed at night. One of my patients complained only of severe headache. A brain surgeon had been called in by his family doctor who thought he might have a brain tumor. Discovery of a tremendously overdistended bladder revealed the true situation. The patient's bladder was drained for several days by indwelling Foley catheter until renal function had become stabilized. (His headache was due to uremia from back pressure on his kidneys). Then a median bar was removed by transurethral resection and the patient made a most gratifying recovery.

In general, the man who has prostatism complains of local symptoms referable to the urinary tract. One of the first and most important symptoms is nocturia. The patient has to get up to urinate one or more times at night. At the same time some impairment of the size and force of the stream is noted. Difficulty in starting and terminal dribbling gradually become more troublesome. Hematuria may occur, but not often. Contrary to general belief, bleeding is more common with benign hypertrophy than with cancer of the prostate. An attack of acute retention may occur, usually at a most inopportune time.

In such cases when the physician feels the prostate rectally and notes enlargement he has little difficulty in advising the patient as to whether or not surgical treatment is indicated. However, it must be remembered that the prostate may not feel enlarged or abnormal in any way. In such cases one should keep in mind the possibility of prostatic obstruction that cannot be palpated rectally, such as a middle lobe hypertrophy, median bar, fibrous contracture of the bladder neck, and neurogenic bladder. Further studies must then be carried out. The presence and amount or the absence of residual urine is of first importance in the diagnosis. This is done by having the patient void all he can, and then passing a catheter to see if any residual urine remains in the bladder. This test, too, can be deceptive, because high degrees of vesical neck obstruction can exist without residual urine, since the bladder muscle undergoes compensatory hypertrophy and can compensate at first for the demands imposed by the obstruction. More definitive studies by the urologist may then be required to reach an accurate evaluation of the particular case.

Recurrent urinary tract infection often constitutes the only subjective finding in prostatism. Recurrent attacks of cystitis with pyuria may constitute a puzzling situation as to etiology until careful study reveals that it is due to bladder neck obstruction caused by the prostate. Obstruction anywhere in the urinary tract predisposes to infection, and the reverse is also true. Stasis of urine incidental to obstruction almost invariably leads to infection sooner or later.

Patients with a moderate degree of obstruction with no evidence of infection or damage to the upper urinary tract through backpressure may be carried along on non-surgical treatment for long periods without surgery in some cases. However, if symptoms become too disturbing, or, regardless of symptoms, if kidney damage becomes evident as a result of the obstruction then surgical treatment is imperative. In prostatism patients do not die as a direct result of the disease of the prostate but indirectly

from uremia as a result of damage to the upper urinary tract. In such cases it is necessary to resort to the indwelling catheter to overcome the effects of the obstruction. Then after several days, or even weeks, when renal function is stabilized and general homeostasis restored, surgery can be employed with some degree of safety. In other patients who show no renal impairment, operation may be undertaken without delay provided their general physical condition permits.

An ancient philosopher by the name of Gracian said: "For it is not without plan that nature has joined the sweetness of the honey with the sharpness of the sting of the bee".

Choice of Technique

So it is with prostatectomy. Of all the many techniques and variations thereof which man has devised there is none with its advantages which has not also its disadvantages. Fancy has run riot in devising new methods of approach. There are those mice among men who choose to nibble at even the largest gland making unseemly hamburger of it (transurethral resection) while the man among the mice with a deft turn of the wrist and flick of the finger removes the whole thing en masse in ten minutes by open operation.

The relative merits and demerits of all these methods has furnished urologists with a never ending source of enjoyable debate and there is no prospect that these views will ever be wholly reconciled anymore than that the United Nations will be able to wipe war from the face of the earth. I *do* think, however, there is a growing tendency for urologists to stop bragging about how big a gland they can remove by transurethral resection, and to veer in the direction of *open* prostatectomy, which is easier on both the surgeon and the patient. Too many patients have come back later for more resection in cases of benign hypertrophy. Transurethral prostatectomy is the hardest operation to learn to do. Someone stated that it takes ten years and 1000 cases to make a good resectionist.

In the marvelous present day training facilities available to the young man who wishes to specialize in urology he may theoretically acquire equal skill and facility in all methods of prostatectomy. I doubt this euphoric thought will ever be realized because of the natural variations in individual human proclivities. Every urologist unconsciously assumes a partisan attitude with experience, and becomes biased in favor of certain methods, and he will become more expert in certain procedures and less so in others. Years of experience with a wealth of clinical material and a conscientious attempt on my own part to become proficient in all methods has failed to make me the perfectly rounded out unbiased expert in all methods which we are told should be the goal of every urologist. Such Olympian heights are only for the chosen few, and mighty few are chosen.

Analyzing my own attainments without personal bias, I would grade myself on a scholarship basis as follows: Suprapubic prostatectomy grade 1, perineal prostatectomy grade 2, transurethral prostatectomy grade 3 and retropubic prostatectomy grade 4. Thus I consider myself an expert suprapubic prostatectomist, a good perineal prostatectomist, a fair resectionist and a mediocre retropubic artist. I find that these grades vary in direct proportion to my personal liking for these various operations. Obviously, any man will learn to do well what he likes to do, and will only achieve mediocrity in what he does not like to do. Recognition of the human equation renders futile all argument as to the superiority of one method over another. With adequate basic training in urology supplemented by years of experience the urologist is entitled to utilize the particular method for a given type of case which he has found gives him the most perfect end results with a minimum of morbidity and mortality.

With this peroration I will now proceed to outline my own methods, and at the same time I shall try to avoid any insinuation that my way is the only way to salvation. In other words, I shall not

attempt to tell you the best way, but the way I like best. I would be in an embarrassing dilemma if I were to convert you all to my way of thinking and then have my convictions altered, as might happen to anyone who retains an open and pliable mind.

In retrospect, it interests me to note that at the outset of my urological career, having been trained by a perineal enthusiast, I did perineal prostatectomies exclusively in the case of median bars, vesical neck contractures and obstructive prostatic cancer not amenable to radical removal. I subsequently learned to do suprapubic prostatectomies which I came to look upon with increasing favor, since it was easier to do than the perineal and less subject to urethral sphincter and rectal injury. With the advent of the Stern-McCarthy Resectoscope, transurethral prostatectomy won the spotlight and became so favored that I treated about ninety per cent of bladder neck obstructions by this method. With increasing experience my initial enthusiasm for transurethral resection waned as a result of certain morbidity factors, and the necessity of reoperation after a few years in a certain percentage of cases, particularly those cases of adenomatous hyperplasia. No matter how emphatic the transurethral protagonists may be who do 100 per cent resections I remain skeptical of the ability of even the most skilful to completely and safely remove 100 per cent of the hyperplastic tissue in every case.

At the present time my practice is to utilize transurethral resection in approximately thirty per cent of all bladder neck obstructions. I limit its use in general to median bars, small hyperplasias, vesical neck contractures, certain neurogenic bladder disturbances and obstructive prostatic cancer not amenable to radical extirpation. Approximately 60 per cent are done suprapubically. Suprapubic prostatectomy is limited to benign glandular hyperplasias which by their very nature are easily enucleable. Perineal prostatectomy is resorted to in about ten per cent of cases. The indications for this procedure are benign hyperplasias of extravesical type which are low in the pelvis, prostatic enlargements in the very obese, and in suspected prostatic cancer. The perineal approach is ideal also for extensive calculus disease of the prostate where operative interference is indicated.

Retropubic prostatectomy has not yet won a place in my affections. So far, I fail to see where it has any special virtues to recommend it over and above those methods already in use. It violates the space of Retzius which it can only do because of antibiotics and allied drugs, but even then, the incidence of osteitis pubis is greater with it than with other operations. However, many urologists have given this operation their stamp of approval, and it is not my purpose to make odious comparisons. I do not propose to bore you with statistics because biological statistics are always elastic enough to support any partisan thesis. How measure the length of an earthworm which can vary its length according to the exigencies in which it finds itself?

In 1949, I had the privilege of attending the Eighth Congress of the International Society of Urology held in Barcelona, Spain. One day was devoted to a symposium on the treatment of the obstructions of the bladder neck (excluding cancer of the prostate). I was particularly interested in a comprehensive dissertation given by Galbraith of Glasgow, Scotland. After paying tribute to some of the newer procedures such as the Harris operation, the Hey operation and the Millin operation he mentioned the original operation by Freyer of London first done over fifty years ago. I quote: "By this operation I mean a simple rapid suprapubic enucleation of the prostate gland (with control of bleeding by the use of a dilatable bag catheter). I believe that this may be the operation of choice in the *very poor risk* (italics mine), where it would be unsafe to submit that patient to an operation exceeding a quarter of an hour in length". In that statement I believe he unwittingly revealed the crux of the whole situation.

My immediate thought was that if the Freyer operation is best for the very poor risk why is it not also good for the risk that is not so poor? Probably this feeling has been the subconscious motivation for my favoring the Freyer operation, with slight modification, for the past twenty-five years, and finding it good. Incidentally, I would invite you to read Freyer's book on "Enlargement of the Prostate", published over half a century ago. You will find it extremely interesting and instructive. He claims priority in having, on December 1, 1900, performed the first *total* enucleation of the prostate gland as opposed to the earlier operations of McGill, Belfield, Fuller and others who pioneered in doing partial prostatectomies, removing only prominent portions of the enlarged gland "by means of scissors, forceps and scoops of kinds". He does not mention the perineal prostatectomy of Goodfellow who is generally accorded priority in removing the total enlargement some ten years earlier.

Regardless of priority, it is a remarkable tribute to Freyer and his work that he was able in 1906 in the third edition of his book to report a series of 312 cases operated upon with a mortality of only seven per cent. Mind you, this was in the days before we had blood transfusions, antibiotics, modern anesthesia, and very little knowledge of blood chemistry or kidney function.

Technique of Suprapubic Prostatectomy

Preliminary vasectomy is routinely performed in open prostatectomy to prevent postoperative epididymitis. A small incision 6 cm. in length is made in the midline above the symphysis pubis extending down through the rectus fascia. The rectus muscles are separated in the midline exposing the prevesical space. The prevesical fascia is pushed upward to avoid possible injury to the peritoneum and the anterior bladder wall grasped with an Allis clamp. The bladder is anchored on each side of the Allis clamp with a guy suture and the clamp removed. A scalpel is plunged into the bladder at this point and the opening made only large enough to admit the index finger. Like the female perineum, this opening will stretch sufficiently to permit the enucleation of the gland as well as its removal to the outside. This stretching maneuver is preferable to incising the bladder wall any more than is absolutely necessary, because a small incision facilitates primary healing and greatly minimizes postoperative hospitalization. Here I quote Freyer who states that, "It is astonishing through what a comparatively small suprapubic wound a very large prostate can be delivered".

The enucleation of the prostate is accomplished by pushing the index finger down into the prostatic urethra anterior to the catheter, breaking through the mucous membrane of the urethra overlying the lobes and sweeping the finger laterally to right and left, gently and carefully following the plane of cleavage established between gland and capsule. Special care is taken in freeing the gland at its apex so as not to damage the external sphincter. In the majority of cases, bimanual enucleation, performed by having the index finger of the other hand in the rectum to elevate the prostate, will greatly facilitate the operation.

There is generally very little bleeding from the operation. In rare cases where one encounters an unexpectedly adherent gland it may be necessary to enlarge the wound sufficiently to aid the enucleation with scissors. Quoting Freyer again, "It is astonishing the rapidity with which the cavity left by the removal of the prostate practically disappears, owing to the inherent elasticity of the sheath, the contractility of the surrounding muscles, and the pressure of the pelvic structures generally. *The contraction that takes place somewhat resembles that of the womb in parturition, and no doubt has a similar influence in arresting hemorrhage*". Freyer concluded his operation simply by inserting a large suprapubic tube in the bladder and made no use of packs, bags or urethral retention catheter. In conformance with his practice I long ago con-

signed packs and hemostatic bags to the ashcan and instead use a 24 F Foley retention catheter with 30 cc. bag per urethram, together with a large caliber suprapubic tube. I believe that blood loss is in general less with this technic. Less than ten per cent of cases require a unit of blood postoperatively.

Wound closure consists simply of taking two sutures of chromic No. 1 to approximate the rectus fascia, and two sutures of Dermalon in the skin. The opening in the bladder, because of its small size is not sutured. The entire operation from incision to closure, because of its ease and simplicity should not require more than fifteen to thirty minutes for its execution. This is important in old people in avoiding shock.

Postoperatively, the suprapubic drainage tube is removed in twenty-four hours. The urethral Foley 24 F catheter is left in place, and, if kept properly adjusted and open, wound healing is *per primam* without any urinary leakage above. The patient leaves his bed on the second day postoperative and the retention catheter is removed on the sixth or seventh day. It is rarely necessary to replace the catheter. These patients are often clamoring to go home by the eighth or ninth day, but we insist on their staying in the hospital ten to fourteen days, where there is less danger than at home of late secondary reactions or complications.

I am happy with this operation because it is quick and easy to do, and patients are happy because the results are uniformly good.

So much has been written in the last few years about transurethral and retropubic prostatectomy as well as complicated ways of doing suprapubic prostatectomy, that we are apt to think of the original Freyer operation as obsolete. If any of the younger men in this assembly are imbued with such ideas, let them reconsider, and go back to fundamentals.

Perineal Prostatectomy

Because of my early training in urology I have never completely abandoned perineal prostatectomy but still resort to it for teaching purposes, for occasional cases of calculus disease of the prostate, and for carcinoma or suspected carcinoma when it appears to be early enough to benefit by radical removal of the gland.

In 1950, Smith and Woodruff published a thought provoking paper on the development of cancer of the prostate after subtotal prostatectomy for benign, or supposedly benign, hypertrophy. They reported a series of 648 cases of cancer of the prostate in which six per cent had previously undergone subtotal prostatectomy for what appeared to be benign hypertrophy. Further study showed an even higher percentage of clinically undetected carcinoma in specimens removed. They therefore advocate total prostectomy in selected cases of benign hypertrophy.

Labess (1952) in a study of 98 prostates removed suprapubically, clinically diagnosed benign, 9.2 per cent showed coexisting carcinoma. For the past few years there has been an increasing trend in my own practice when doing perineal prostatectomy to do a *total* rather than *subtotal* removal of the gland for two reasons: first of all it is easier to do and secondly it definitely removes any latent malignancy as well as preventing the occurrence of future malignancy. The seminal vesicles are not removed unless carcinoma has been proved clinically or by frozen section from the prostate at the time of operation. It may surprise some of you to know that it is easier to do a *total* than a *subtotal* perineal prostatectomy, so even in cases of benign hypertrophy subjected to perineal prostatectomy I now routinely perform a total rather than subtotal enucleation unless there is some specific contraindication, such as the preservation of the sexual function. Sex life is still an important consideration to some individuals who are still not too old to *yearn*. Speaking of the sexual function, I am always reminded of a passage from Montaigne, the sixteenth century French philosopher, who said: "One has reason to remark on the unruly liberty of this member (the penis)

that so importunately asserts itself when we have no need of it, and so inopportunely fails us when we have most need of it, so imperiously contesting in authority with our will, so proudly and obstinately refusing our solicitations, both mental and manual".

Statistical Study

I would like to mention briefly a statistical study we conducted recently on my service at the Southern Pacific Hospital in San Francisco. This is purely a railroad hospital. In a ten year period, (1947-1957), there were 2000 prostatectomies. There were 1327 transurethral prostatectomies and the balance were open operations chiefly suprapubic by my (Freyer) method. The mortality rate for transurethrals was 1.88 per cent, for suprapubics 1.62 per cent. I think this is a pretty good record when you stop to think that about one half of these cases were done by our residents in training, and that these patients were *all* on *general duty* nursing without special care.

Conclusion

In closing, I would like to say a word about cancer of the prostate. The attitudes of urologists toward radical prostatectomy are at wide variance. These attitudes may be divided into four groups:

1. Those who *believe* in radical prostatectomy, and do it.
2. Those who *do not* believe in radical prostatectomy, and *do it*.
3. Those who *do not* believe in radical prostatectomy and *do not do it*.
4. Those who do not believe in radical prostatectomy, but *say* they do.

Carcinoma of the prostate is such an insidious disease that fewer than five per cent of cases are first seen in a stage early enough to be cured by radical prostatectomy. The radical operation carries a mortality and morbidity rate of five per cent or more. The results of radical surgery as compared with orchiectomy and estrogen therapy in this select group are so closely parallel that the urologist could hardly be accused of malpractice if he were to abandon the radical operation entirely.

References

Freyer, P. J.: Clinical Lectures on Enlargement of the Prostate. 3rd Ed., London, 1906.

Smith, G. G. and Woodruff, L. M.: The Development of Cancer of the Prostate after Subtotal Prostatectomy. Jour. Urol. 63:1077, 1950.

Labess, M.: Occult Carcinoma in Clinically Benign Hypertrophy of the Prostate: A Pathological and Clinical Study. Jour. Urol. 68:893, 1952.

Drug Industry Threatened

I am convinced, in essence, that there should be no change in any laws which throttle the development and marketing of valuable new drugs or would curtail the economic incentives that spur our progress. Unless such stifling proposals are intelligently and vigorously opposed and defeated, the drug industry, as it exists today, will vanish as a free and private industry.—Elmer B. Vliet, Chairman of the Board, Abbott Laboratories, to American Society of Oral Surgeons.

The Use of Gamma Globulin in the Treatment of Herpes Zoster and Herpes Simplex*

• In the treatment of herpes zoster ophthalmicus, the use of gamma globulin is the treatment of choice. In herpes simplex and dendritic ulcers of the cornea, gamma globulin may be reserved for the infants and small children without the antibodies in their plasma.

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IN discussing my paper on the "Use of Gamma Globulin in the Treatment of Viral Diseases",[1] I was surprised to learn that this method of therapy was not well known. I feel that every physician who treats viral diseases should be aware of the therapeutic value of gamma globulin. This paper will be limited to its use in herpes zoster and herpes simplex, but its use in other viral diseases must not be forgotten.

Viral diseases unlike bacterial diseases do not have any specific therapy. This has resulted in an inability to eradicate or attenuate these diseases. Once the infection has manifested itself, it must continue its clinical course.

We are fortunate in having vaccines for many of the viral diseases. The best known are those for variola and poliomyelitis. These vaccines if given in sufficient time will develop immune bodies which will attenuate or protect against the disease. Unfortunately, the viral diseases which affect the eyes do not have specific vaccines available.

Once the disease has manifested itself clinically, we have no specific antiviral therapy other than immune bodies obtained from the plasma of a patient who has recently recovered from the disease. The availability of such a person makes it almost impossible to administer the antibodies early in the disease. To be effective the immune bodies must be administered early before the virus has entrenched itself within the cells. We must resort to those commercial preparations which are readily available such as pooled gamma globulin.

Concentrated gamma globulin is derived from plasma pools of normal healthy donors. Its antibiotic titer is adequate to prevent or attenuate measles;[2-5] German measles;[6, 7] infectious hepatitis[8-10] and poliomyelitis.[11, 12] Hyperimmune gamma globulin is derived from the pooled plasma of individuals four to eight weeks after specific immunization or at a comparable time during convalescence from a particular infection. It has been found useful in the prevention of mumps orchitis[13, 14] and pertussis.[15]

There are several advantages in the use of pooled gamma globulin over the parent plasma. The concentration of the gamma globulin is approximately twenty-five times their plasma concentration. The effective dosage may be administered intramuscularly, and the antibodies are sufficiently stable to permit storage until needed. The danger of transmitting serum hepatitis is eliminated.[16]

Poliomyelitis immune globulin (human) was used in the treatment of my patients. This is the same as the immune serum globulin U. S. P. (human) except that it has been specifically demonstrated to meet a standard set by the National Institute

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of Health for content of type 2 (Lansing) poliomyelitis antibody.[17] It is a sterile concentrated solution of globulins obtained from the human blood and processed from human placentae and standardized to contain 16.5 per cent of globulins (plus or minus 1.5 per cent) more than 90 per cent of which is gamma globulin. The antibiotic activity of plasma is largely confined to the gamma globulin faction.

Concentrated gamma globulin is given intramuscularly or subcutaneously but never intravenously. Toxic reactions are uncommon. A local inflammatory reaction at the site of the injection, malaise, headache and a low grade fever may occur. Severe reactions of angioneurotic edema, nephrotic syndrome and anaphylactic shock have been reported.[18]

The dosage of concentrated gamma globulin used for treatment varies from 0.14 cc. to 0.2 cc. per pound of body weight. The smaller figure was found by Harmon to be effective as used in the 1952 poliomyelitis field trials.[19] The larger dose was recommended by the Executive Committee of the Association of State and Territorial Health Officers.[20] The average adult received a dose of 15 to 30 cc. depending upon the severity of the disease. The expense of the treatment is compensated by quicker recovery, shorter hospitalization and minimal loss of time from work.

Herpes Zoster

The beneficial results obtained by the use of gamma globulin in the treatment of herpes zoster was first reported by Gros in 1952.[21] He presented 11 patients of whom 7 had ocular involvement. The relief of pain, retardation of the lesions and hastened convalescence were also reported by Weintraub,[22] Rodarte and Williams [15] and Lea and Taylor.[23] Unfavorable results were reported by Epstein and Allington.[24]

Case Reports

My first experience with the use of gamma globulin in the treatment of herpes zoster occurred in 1951. At this time I was serving as civilian consulting ophthalmologist for the Barksdale Air Force Base Hospital. I had been called to examine a 28 year old pilot who was suffering severely from acute herpes zoster ophthalmicus. He was awaiting air evacuation to an ophthalmological center. He was given 20 cc. of gamma globulin in two 10 cc. doses. Over night the pain was relieved and the progress of the skin lesions was retarded. He returned to Barksdale in one week with a request from the ophthalmologist to send the name of the medication administered. His recovery was uneventful.

The use of gamma globulin was limited to the treatment of poliomyelitis and a few other diseases.[25] I was unable to obtain the gamma globulin for further study in the treatment of viral diseases until the Salk vaccine for poliomyelitis was released.

My next patient with herpes zoster ophthalmicus was a 42 year old pharmaceutical salesman who had had the disease for four days. He had been treated with combiotic, ACTH, and piromen with no improvement. He was hospitalized and given 20 cc. of gamma globulin in 10 cc. doses intramuscularly. The pain was relieved in twelve hours and the progression of the skin lesion halted. He was discharged on the sixth day and made an uneventful recovery.

The third patient was a 74 year old white male with his only aphakic eye involved. He was in congestive heart failure with fibrosis and bronchopneumonia of the lung. He was given 30 cc. of gamma globulin in 5 cc. doses intramuscularly. He was also digitalized and given antibiotic medication. The pain was relieved over night and the skin lesion began to improve in forty-eight hours. He was released on his tenth hospital day. He was able to wear his cataract lens, and he made an uneventful recovery.

The fourth patient was a 66 year old white female who had the disease for two days. She was referred by her family physician with herpes zoster of the right eye and right side of the forehead. The patient was admitted to the hospital and given 20 cc. of gamma globulin in two 10 cc. doses. The pain was relieved over night and she was discharged on her fifth hospital day. She made an uneventful recovery and the skin lesion healed without visible scars.

Herpes Simplex

The therapeutic results obtained with systemic administration of gamma globulin vary a great deal. The physicians who have used this method of treatment feel that the best clinical results are obtained in recurrent cases in which there is corneal vascularity. The work of Howard and Allen indicates that the human gam-

ma globulin is effective in herpes simplex infection in experimental animals.[25] I would not hesitate to use the gamma globulin in babies and young children who have not had sufficient time to develop their own antibodies. In these patients dendritic ulcers are severe and resistant to the usual treatment measures. Scars of the cornea are often seen after such an infection. In older patients with recurrent attacks, the gamma globulin should be administered as the healing process is hastened. Hospitalization is usually avoided and the loss of time from work is minimized. The resultant scarring is lessened. Since the scars from previous attacks have lowered their visual acuity, further corneal scars must be avoided whenever possible.

Case Reports

My first experience with the use of gamma globulin in the treatment of dendritic ulcers was in 1952. The patient was an eight month old infant with binocular corneal involvement. The lesions failed to respond to iodine and alcohol cauterization. The diseased epithelium was removed with a Von Graefe knife, and five cc. of gamma globulin administered intramuscularly. The ulcers of both corneas healed with no resultant scars.

The second patient was a five year old white female who was referred by an ophthalmologist who had treated the dendritic ulcer with iodine and alcohol cauterization. The lesion promptly recurred and was spreading. The cornea was again cauterized by iodine and alcohol and the involved epithelium removed with a Von Graefe knife. Ten cc. of gamma globulin in 5 cc. doses were given intramuscularly. The ulcer healed with a minimal scar.

The second group of patients with dendritic ulcers who should be treated with gamma globulin are those with recurrent scarred and vascularized corneas. These patients well remember their periods of hospitalization, repeated cauterization, and often artificial fever injections. They also remember the cost and the time lost from their employment. They are very grateful and cooperative patients.

My first patient in this group was a 28 year old man with numerous corneal scars and vascularity. He was treated in the office by cauterization with iodine and alcohol, and the damaged and diseased corneal epithelium was removed. Atropine and antibiotic ophthalmic ointment were instilled and the eye dressed. Fifteen cc. of gamma globulin were given intramuscularly. Still wearing the eye patch, he was able to return to work on the fourth day. The cornea healed rapidly with only minimal scarring.

The second patient with recurrent dendritic ulceration was a 46 year old school teacher who had scars and vascularization of both eyes. Since his lesion was monocular, he was treated in the office by cauterization with iodine and alcohol. The involved corneal epithelium was removed with the Von Graefe knife. Atropine and antibiotic ophthalmic ointments were instilled and the eye dressed. He was given 20 cc. of gamma globulin in 10 cc. doses on successive days. Wearing the bandage, he was able to return to his classroom on the second day. The cornea healed with minimum discomfort and scarring.

The majority of patients with dendritic ulcers which are primary lesions of small size should be treated by cauterization with iodine and alcohol and with the removal of the involved epithelium. Bandaging of the eye after instillation of atropine and antibiotic ophthalmic ointments in the conjunctival sac is usually sufficient to cure the disease. In recurrent lesions and in those patients with severe clinical reactions of the cornea and conjunctiva, gamma globulin should be given.

Summary

Gamma globulin has been used successfully in the treatment of many of the viral diseases. I have used it successfully in the treatment of herpes zoster and dendritic ulcers. Other authors have reported similar results and have been encouraged with its use.

Conclusions

Many medical articles have been published on the use of gamma globulin in the treatment and prevention of the viral diseases. Very few of these articles include ocular involvement and very little has been published by the ophthalmologists. It has been my experience that very few ophthalmologists are aware of the value of gamma globulin in the treatment of viral diseases.

In the treatment of herpes zoster ophthalmicus the use of gamma globulin is the treatment of choice. In herpes simplex and dendritic ulcers of the cornea gamma

globulin may be reserved for the infants and small children without the antibodies in their plasma. The patients with recurrent attacks and corneal vascularity should be given gamma globulin.

In order to obtain the maximum beneficial results, the gamma globulin must be administered early in the disease. The dosage should also be sufficient to maintain a high plasma titer and thus obtain the maximum clinical response.

References

1. Breffeilh, L. A.: The Use of Gamma Globulin in the Treatment of Viral Diseases: Presented at Pan American Congress of Ophthalmology: Caracas, Venezuela: (Feb.) 1960. In Print.
2. Gross, A. M., Gitlin, D., Janeway, C. A.: The Gamma Globulins and Their Clinical Significance. IV. Therapeutic Uses of Gamma Globulins: New Eng. J. Med., 260:170 (Jan.) 1956.
3. Allen, J. E., and Frank, D. J.: Use of Gamma Globulin in Measles Encephalitis: Pediatrics, 17:78 (Jan.) 1956.
4. Greenberg, M., Pellitterii, O., and Eisenstein, D.: Measles Encephalitis. I. Prophylactic Effect of Gamma Globulin: J. Pediat., 46:642 (June) 1955.
5. Gordon, Vida H.: The Use of Gamma Globulin in Infectious Diseases: J. Ark. Med. Soc., 55:299 (Jan.) 1959.
6. Committee on Public Health of New York County Medical Society. Cited by Barondesa, J. A.: Present Status of Gamma Globulin: Pediatrics, 10:732 742, 1952.
7. Houser, H. B., Schalet, N: Prevention of Rubella with Gamma Globulin: Clin. Research, 6:281, 1958.
8. Heia, D. Y. Y., Lonsway, Jr., M., Gellis, S.: Gamma Globulin in the Prevention of Infectious Hepatitis: New Eng. J. Med., 250:417 (Mar. 11) 1954.
9. Havens, Jr., W. P., Paul, J. R.: Prevention of Infectious Hepatitis with Gamma Globulin: J.A.M.A., 129: 270 (Sept. 22) 1945.
10. Stokes, J., Neefe, J. R.: The Prevention and Alleviation of Infections Hepatitis with Gamma Globulin: J.A.M.A., 127:144 (Jan. 20) 1945.
11. Evaluation of Gamma Globulin in Prophylaxis of Paralytic Poliomyelitis in 1953, National Advisory Council: J.A.M.A., 154:1086 (March 27) 1954.
12. An Evaluation of the Efficacy of Gamma Globulin in the Prophylaxis of Paralytic Poliomyelitis as Used in the United States 1953. Report of National Advisory Committee: Public Health Monograph No. 20, May 1954.
13. Bower, A. C.: Treatment of Mumps and its Complications in the Adult Male: Current Med. Dig., 25:116, Jan. 1958.
14. Cellis, S. S., McGuinness, A. C. and Peters, J.: Study of Prevention of Mumps Orchitis by Gamma Globulin: Am. J. Dis. Child., 210:661, 1945.
15. Rodarte, J. G., Williams, B. H.: Treatment of Herpes Zoster and Chicken Pox with Immune Globulin: A.M.A. Arch. Derm., 73:553 (June) 1956.
16. Murray, R., and Ratner, F.: Safety of Immune Serum Globulin with Respect to Homologous Serum Hepatitis: Proc. Soc. Exper. Biol. and Med., 33:554, 1953.
17. American Medical Association: Council on Drugs, New and Non-Official Drugs, 1958, 645 pp. Philadelphia, Lippincott, 1958.
18. Owings, W. J. B.: Hypersensitivity to Gamma Globulin: Case Report: J.M.A. Alabama, 23:74, 1953.
19. Hammon, W. McD., Coriell, L. L., and Stokes, J. Jr.: Evaluation of Red Cross Gamma Globulin as a Prophylactic Agent for Poliomyelitis: J.A.M.A., 150:739, 1952.
20. Landaner, K. S.: Passive and Active Immunization Against Poliomyelitis: Current Status National Foundation for Infantile Paralysis Report to Physicians, July 1954.
21. Gros, H.: Die Behandlung des Herpes Zoster mit Human Globulin: Deutche Med. Wchnschrs, 77:1074 (Sept. 5) 1952.
22. Weintraub, I. I.: Treatment of Herpes Zoster with Gamma Globulin: J.A.M.A., 157:1611 (April 30) 1955.
23. Lea, W. A., Jr., and Taylor, W. B.: Gamma Globulin in the Treatment of Herpes Zoster: Texas State J. M., 54:594 (Aug.) 1958.
24. Epstein, E., and Allington, H. V.: Treatment of Herpes Zoster: A.M.A. Arch. Dermat., 76:408 (Oct.) 1957.
25. Plan for Allocation of Gamma Globulin Issued April 15, 1953, by the Office of Defense Mobilization in the Executive Office of the President: Public Health Reports, Vol. 68, No. 7, 666 668 (July) 1953.
26. Howard, J. L. and Allen, H. F.: Treatment of Experimental Herpes Simplex Iridocyclitis with Human Serum Gamma Globulin: A.M.A. Arch. Ophth., 59:68 (Jan.) 1958.

Discussion

Dr. Robert A. Schimek (New Orleans): It is always a pleasure to discuss a paper which is in agreement with one's own views and practices. Dr. Breffeilh should be complimented for his courage in publishing his conviction that gamma globulin is of value in the treatment of herpes zoster and herpes simplex of the cornea.

Let us attempt to judge scientifically the value of gamma globulin for herpes. Against it is the absence of valid statistical data in patients to prove that gamma globulin is truly of value. The course of herpes zoster, and particularly of herpes simplex of the cornea, can be most variable. For example, herpes simplex may occur and subside spontaneously in a few days without any therapy. Certainly, no scientific conclusion can be reached from the treatment of only 4 cases of herpetic dendritic keratitis.

If we take the opposite side and argue for the treatment of herpes with gamma globulin, we can state the following. Although the 4 cases of herpes simplex and 4 of herpes zoster are not as many as would be desired for a statistical evaluation, and although there are no controls, the clinical course of these 8 patients was much better than would be expected with other conventional methods of treatment. Recovery was rapid and uncomplicated. Second, the rationale of applying this treatment for herpes is logical, since gamma globulin has proved to be effective in other virus diseases.

In support of Dr. Breffeilh's observations, I would like to mention 5 cases of my own in which treatment with gamma globulin for herpes simplex of the cornea or dendritic keratitis was used. Case No. 1 was a 20-year old white girl with a history of repeated severe attacks of dendritic keratitis for seven years, which had resulted in a vascularized scarred cornea. I first saw her one month after another recurrence,

which had been treated unsuccessfully elsewhere with iodine cauterization. For the next month I treated her with two additional iodine cauterizations, prolonged patching of the eye, local application of aureomycin, and general hygienic and supportive measures, with her vision remaining about 20/400. Active, severe, widespread dendritic keratitis persisted.. Twenty cubic centimeters of gamma globulin was administered, and the cornea was again cauterized to remove the cells that were already infected. In five days the cornea completely healed and vision cleared to about 20/40.

Case No. 2 was a 10-year old girl, who had had repeated, recurrent attacks of herpetic keratitis accompanied by fever and fever blisters on the face for three years. Some scarring and vascularization of the cornea not affecting the pupillary area were noted. Ten cubic centimeters of gamma globulin was administered. The cornea was cauterized. Uneventful healing occurred within ten days which was a shorter time of recovery than she usually had experienced in the past several years from these attacks. This was about two years ago. One year ago, another attack of herpetic dendritic keratitis occurred, and the cornea was cauterized with iodine. Gamma globulin was again administered, with prompt healing in three days. Since then, whenever herpetic blisters on her face and fever develop, she promptly reports to the office for a prophylactic dose of 2 to 5 cc. of gamma globulin. She has had three such attacks of fever and fever blisters, which have been immediately treated with gamma globulin and no herpetic disease of the cornea has resulted. This has been a reversal of her previous experience when herpetic keratitis would routinely accompany her attacks of fever and "fever blisters" on the face.

Case No. 3 was an adult whose initial attack of herpetic keratitis was treated with 20 cc. of gamma globulin and ether scrub of the cornea, which cleared in three days. Case No. 4 was another adult with his third attack of herpetic keratitis. There was no vascularization of the cornea but there were some scars from the previous attacks. The corneal infection subsided within five days after administration of gamma globulin and iodine cauterization.

Case No. 5 was a 30-year old man with 20/200 vision and dense corneal scarring and corneal vascularization from repeated attacks of herpetic keratitis. Treatment with 10 cc. of gamma globulin and trypsin topically failed to affect the herpetic keratitis. Cauterization of the cornea with iodine resulted in prompt healing within the next three days. It may be that cells that are already infected must be removed by iodine cauterization or other debridement and that gamma globulin may protect the new epithelial cells from infection by the virus. This theory would seem more reasonable in those corneas which are already vascularized so that the antibodies could reach the diseased area.

Although I have made gamma globulin a part of my armamentarium against recurrent herpetic keratitis during the past two and a half years, I have no scientific proof of its value from the standpoint of a controlled statistical series. It is merely a clinical impression that gamma globulin is of value when given before or at the same time of corneal debridement with iodine, ether, or other similar techniques. I hope that Dr. Breffeilh or someone will set up a controlled study so that we can obtain objective evidence of its value.

Drug Information—Please

The nation's physicians annually make 62,000,000 phone calls to the nation's pharmacists—seeking information. It shows that the doctor is avid for information about prescription drugs. It shows also that he will not hesitate to turn to the pharmacist for it.—Dan Rennick, editor of *American Druggist*.

Surgical Treatment for Deafness*

• The technique and results in stapedectomy are given.

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New Orleans

HEARING loss is the greatest impairment that affects man. There are more than seventeen million Americans including 10 per cent of the school children that suffer from a hearing handicap. At the present time our efforts are directed to the prevention and surgical correction of early hearing losses. Conductive or obstructive hearing losses are due to disease or damage to either the ear canal, drum, middle ear, stapes, eustachian tube, nasopharynx, or a combination of these. This group constitutes one-third of all the hearing impairments.

Children often have recurrent abscesses of the ear. Paracentesis and adenoidectomy will prevent these cases from developing a chronic draining ear with progressive damage to the middle ear structures. In adults a sterile accumulation of fluid often follows a cold. If early paracentesis is delayed eventual reorganization takes place in the middle ear with a resultant adhesive otitis media and hearing damage.

Antibiotics will help some of the cases but the ones that persist need further intervention by surgical methods. In the chronic draining ears, simple mastoidectomy and repair of perforated eardrums will eradicate the infection and maintain good hearing.

Otosclerosis

Deafness due to fixation of the stapes was discovered by great otologists as early as 1735. This condition was called otosclerosis and described as a bony overgrowth of spongy pathological bone in the osseous labyrinth. This ankylosis of the stapes prevented its normal vibration to transmission of sound. The greater the fixation of the stapes the more hearing impairment. In 1938, Dr. Julius Lempert devised the one stage fenestration of the lateral semicircular canal for restoration of hearing. This operation by-passed the stapes and oval window so that sound was transmitted directly to the inner ear. In 1952, Rosen, in elevating the eardrum and testing for stapes fixation, accidentally mobilized the stapes. The patients could hear well, but in several months the stapes refixed in 50 per cent of the cases. Michael Portmann of France and John Shea of Memphis in order to avoid re-ankylosis of the stapes recommended removal of the stapes and footplate and replacement of a stapes by a polyethylene tube. As a result ossicular continuity was re-established as well as the normal transmission of sound to the oval window.

Otosclerosis is common in 1 out of 10 people. There are twice as many women affected as men. Clinical otosclerosis manifests itself between the ages of 15 years and 40 years, but does occur in the older age groups. There is a familial tendency in 60 to 70 per cent of the patients. This is the group that wears hearing aids and feels that very little can be done medically. To the contrary, the greatest strides have been made surgically for the rehabilitation of this group. The etiology of otosclerosis has been termed a vascular process by Dorothy Wolff, a localized form of Paget's Disease, a form of osteogenesis imperfecta. Numerous other theories have been given.

Diagnosis of Otosclerosis

1. Clinical otosclerosis is characterized by a history of a progressive hearing loss

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† From the Department of Otolaryngology, Louisiana State University School of Medicine, New Orleans, Louisiana.

in early adult life which may or may not be associated with tinnitus or a familial history of impaired hearing.

2. The presence of a conductive hearing loss is determined by striking a 500 cycles per second tuning fork in front of the ear. When the sound is no longer heard the tip of the tuning fork is placed over the mastoid bone. The sound is still heard and means the patient has good bone conduction and nerve function. An audiometer gives the exact hearing curve in terms of air and bone conduction at the speech frequencies, namely 500, 1000, and 2000 cycles per second.

3. By elimination of other causes of conductive deafness such as a perforated eardrum, blocked eustachian tube, etc. one arrives at the diagnosis of clinical otosclerosis.

Stapedectomy With Vein Graft Procedure

The ear canal and hand are prepared. A 6 mm. vein graft is taken from the dorsum of the hand and placed in Ringer's lactate solution. Using the operating microscope, a triangular incision is made in the posterior auditory canal 8 mm. to 10 mm. from the annulus of the drum. The skin flap and drum are then dissected and folded anteriorly. The incus and stapes as well as its footplate is visible (Fig. 1).

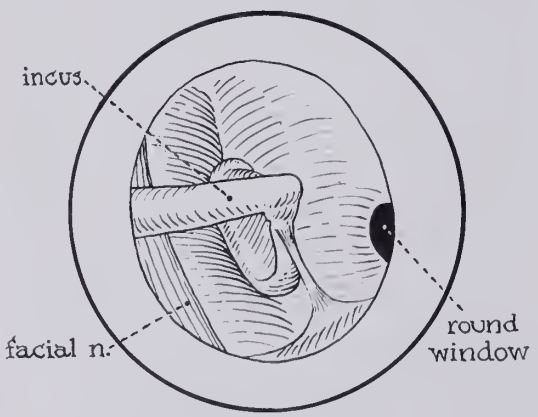


Figure 1.—Exposure of the middle ear showing the incus, stapes and footplate.

The stapedius tendon is divided and the joint between the incus and the stapes is separated. The stapes is fractured and removed.

The stapes footplate is cleared of mucosal covering and then splintered with a small pick (Fig. 2). If the footplate is

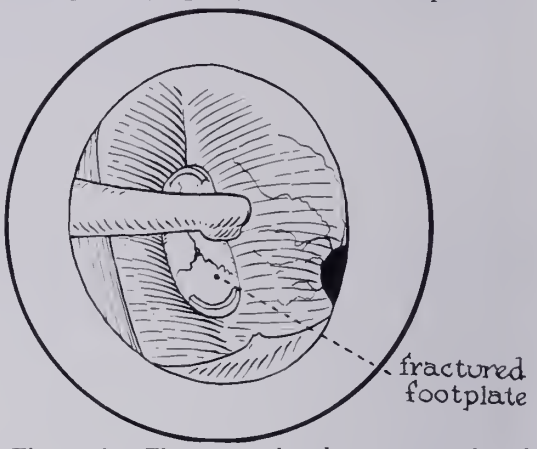


Figure 2.—The stapes has been removed and the thin footplate fractured with a pick.

thick a cutting burr is needed to open the oval window (Fig. 3). The vein is taken

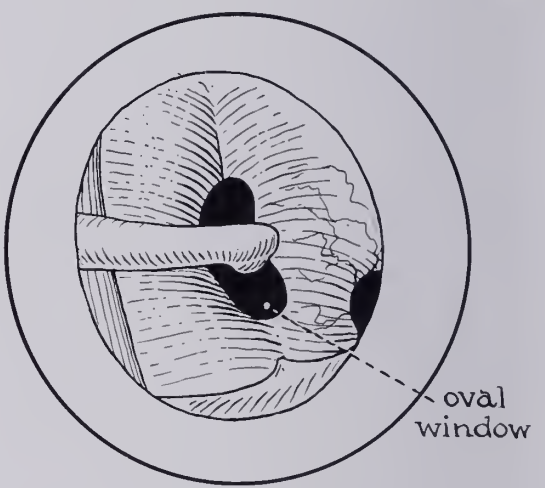


Figure 3.—The oval window after removal of the footplates.

out of the solution, trimmed of fat and divided. The vein with its intima side up is placed over the oval window.

A polyethylene strut 3.5 to 4 mm. is placed between the lenticular process of incus and the oval window covered by the vein graft (Fig. 4).

The eardrum is then replaced and the ear incision covered with gelfoam sponges soaked in adrenalin. The patient now hears better. Testing with the tuning forks will reveal the patient hears better in front of the ear than over the mastoid bone. This means that normal ossicular continuity has been restored.

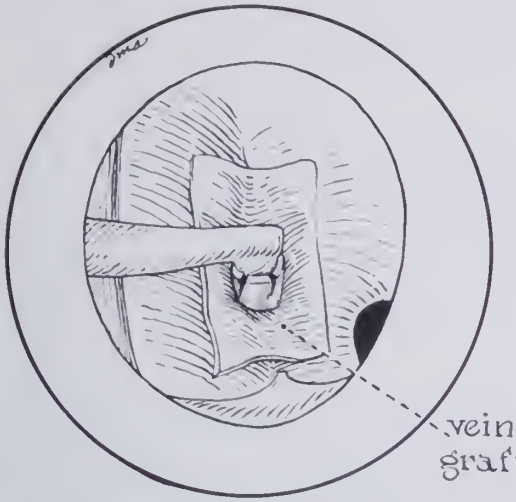


Figure 4.—The vein covers the oval window. The polyethylene strut is placed between the lenticular process of the incus and the oval window.

The hospital period is usually two days and the patient is maintained on antibiotics for a week.

Results and Audiograms

Air-bone gap closures for the 500, 1000, and 2000 cycles per second constitutes a good measure of success (Figs. 5-9).

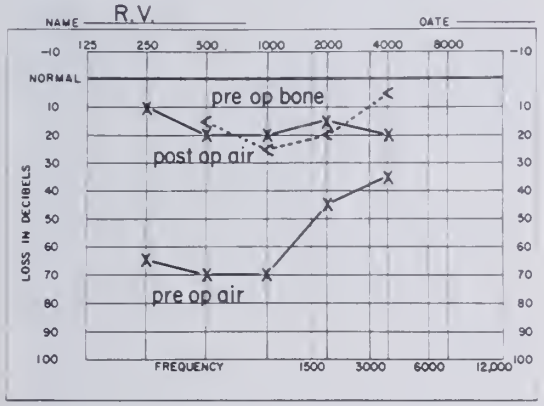


Figure 5.—Overclosure of air-bone gap. (R.V.)

This closure represents a difference of ten decibels between the preoperative bone and the postoperative air conduction in the speed frequencies. Many of our cases showed overclosure of the air-bone gap. The results with this procedure are over 90 per cent and the more selective we are the higher our prognosis.

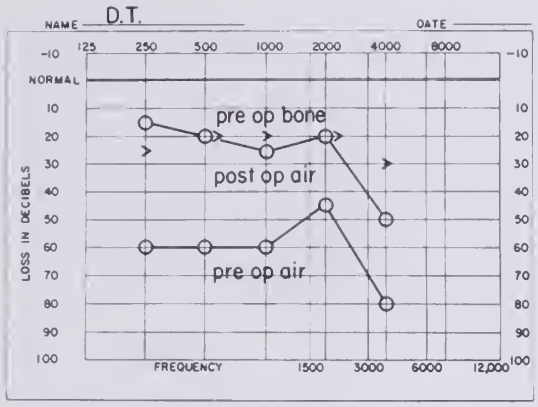


Figure 6.—Closure air-bone gap. (D.T.)

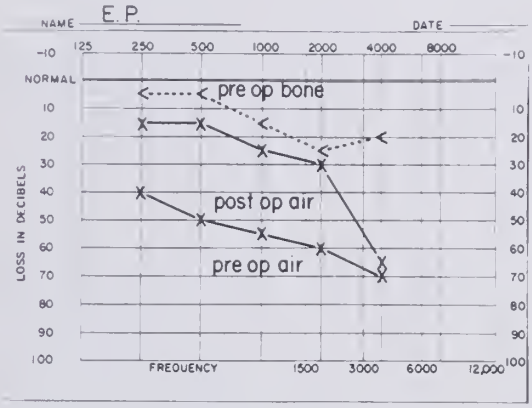


Figure 7.—Closure air-bone gap within 10 decibels. (E.P.)

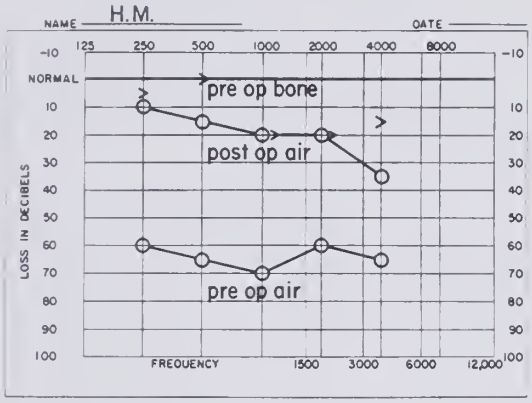


Figure 8.—Closure air-bone gap. (H.M.)

Summary

There are over 17 million Americans with a hearing impairment. One-third of this group has a conductive loss due to damage or disease to the ear canal, eardrum, stapes, eustachian tube or nasopharynx. Early paracentesis and adenoidectomy in children with recurrent ab-

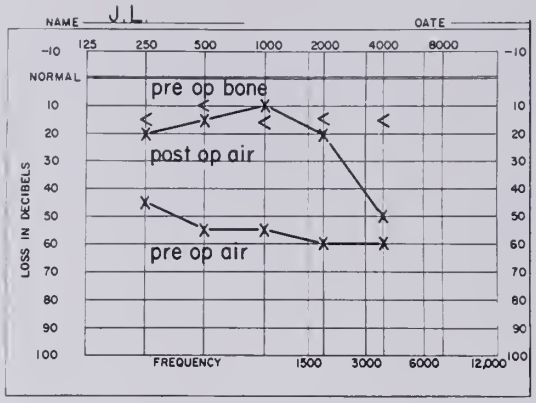


Figure 9.—Closure of air-bone gap. (J.L.)

scessed ears will reduce hearing loss. Adults with fluid in the middle ear following colds—secretory otitis media—often results in adhesive processes in the middle ear with marked hearing losses. Paracentesis and nebulization are essential.

Otosclerosis affects 1 out of 10 people. These people wear hearing aids as they feel nothing further can be done medically. Great strides in rehabilitation of this group to normal unaided hearing has been done by first the fenestration operation and now the stapedectomy and vein graft procedure. Ossicular continuity for normal restoration of sound in 90 per cent of the cases is accomplished by removal of the fixed stapes and its footplate and replacement by a polyethylene strut and vein graft.

References

1. Lempert, J.: Principles Used in the Development of Modern Temporal Bone Surgery, A.M.A. Arch. Oto laryng. 69:515 (May) 1959.

2. Health Statistics—U. S. National Health Survey—Impairment by type, sex, and age. United States, July 1957 - June 1958. Series B-9 Washington, D. C.—April 1959.

3. Shea, J. J., Jr.: Fenestration of the Oval Window, Ann. Otol. Rhin. & Laryng. 67:932 (Dec.) 1958.

Discussion

Dr. George D. Lyons, Jr. (New Orleans): Dr. Zoller has covered the field of surgical management for otosclerosis. I would like to very briefly review the surgical management for other forms of conductive deafness, particularly those caused by trauma or suppurative otitis media.

The mastoid operation, that is, the simple, modified and radical mastoidectomy is still employed.

Tympanoplasty—The plastic reconstruction of a middle ear has two primary goals. These are sound protection of the round window and sound pressure transformation to the oval window. The indication for tympanoplasty is good cochlear function, eustachian tube function, and elimination of disease processes. The types are as follows:

1. The repair by skin or vein grafts of a perforated tympanic membrane with a normal ossicular chain.

2. The perforation of tympanic membrane with erosion malleus the graft is placed against the ossicular remains.

3. The graft is applied directly to the head of a mobile stapes.

4. The footplate is exposed; a tubal ear is then formed.

5. A fenestration operation is performed usually in the 2nd stage.

A new procedure was introduced by Thomas Rambo known as musculoplasty, in which the temporalis muscle and fascia is introduced into the middle ear and a fenestration performed, similar to Type 5 tympanoplasty.

References

1. Lyons, George D.: Tympanoplasty Class III in Teaching Mastoidectomy Operations, Sou. M. J., 1959.

2. Wullstein, H.: Theory and Practice of Tympanoplasty, Laryngoscope 66:1076, 1955.

3. Zollner, Fritz: The Principles of Plastic Surgery of the Sound Conducting Apparatus, Laryng. and Otol. 69:637, 1955.

Funerals Are Expensive

Nobody several years ago survived the series of illnesses that I have had. If someone tells me that the medicines I carry are expensive I must laugh, particularly when I read circulars advertising graves. I would rather pay for a medicine than a grave any day.—George E. Sokolsky, columnist, King Features Syndicate.

Thoracic Lesions in Infants Requiring Urgent Surgical Care*

• Many infants, newborn or under one year of age, die from lesions of the chest. The possibilities of surgical intervention are discussed by the author.

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A LARGE number of fatalities among newborns and infants is due to respiratory failure, cardiac failure, or both. Thus, each year in the United States more than 47,000 infants younger than one year of age die from lesions of the chest.[1] Many of these deaths can be prevented by early recognition and prompt surgical treatment. Thoracic conditions in infants requiring urgent surgical care range from an inhaled foreign body, requiring simple endoscopic removal, to a complicated congenital cardiac malformation necessitating use of extracorporeal circulation for correction. The common bond between these extremes is that each creates a state of urgency, which requires immediate treatment if maximal benefit is to be achieved. The purpose of this paper is to present the indications for and the surgical management of the various lesions of the lung, esophagus, diaphragm, heart and great vessels in infants requiring urgent surgical care.

Pulmonary Lesions

Congenital

Congenital pulmonary cysts usually have a connection with the bronchial tree, and because of this communication, air tension and infection are apt to occur. The absolute indication for surgical treatment is increasing air tension within the cyst. The enlarging cyst will compress the normal pulmonary tissue on the affected side and cause shifting of the mediastinum with subsequent compression of the lung on the contralateral side. This mechanical compression of pulmonary parenchyma results in respiratory distress manifested by dyspnea, cyanosis, and tachypnea with intercostal and sternal retraction.

Treatment consists of resection of the involved portion of the lung. However, in moribund patients, transthoracic aspiration of the cyst as a temporary measure may prove lifesaving. Aspiration of the cyst results in production of a bronchopleural fistula; for this reason a physician should remain in attendance in order to further relieve tension pneumothorax until the cyst can be resected. Treatment of a non-expanding congenital cyst that subsequently becomes infected differs from treatment of a cyst that develops secondary to infection. In the latter instance, medical therapy is usually all that is necessary; however, surgical drainage, or preferably, excision is needed to control infected congenital pulmonary cysts.

Localized pulmonary emphysema, characterized by emphysematous expansion of one lobe, is due to maldevelopment of the bronchial cartilage in most instances, although redundant mucosal folds, compression by an aberrant vessel, or bronchial stenosis secondary to infection, cyst or mucous plugs, may be the etiologic factor. Symptoms of respiratory distress usually occur early in life, most often, during the first month. Bronchoscopy is usually of no benefit.

Once the condition is suspected, immediate removal of the abnormal lobe is mandatory to prevent a tragedy. Caution

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should be exercised not to increase the tension within the emphysematous segment or expanding pulmonary cyst during induction of anesthesia. It is often desirable to delay inhalation anesthetization until after the thoracotomy incision has been made with use of a local anesthetic and the involved lung allowed to herniate through the incision. The affected portion of lung may then be resected without haste.

Inflammatory and Obstructive

Massive aspiration syndrome and *pneumonia* are treated primarily by medical measures; however, complications, which are rather common, necessitate urgent surgical treatment. Bronchial obstruction, secondary to aspiration or infection, produces emphysematous changes distal to the obstruction with occasional resultant pneumomediastinum or pneumothorax. Asymptomatic pneumomediastinum or pneumothorax, secondary to massive aspiration in the newborn, requires no treatment; however, if respiratory or circulatory embarrassment is present, aspiration is indicated and often should be followed by closed thoracotomy with the tube connected to a water trap, so that air can escape but not enter the chest. Because of the increased resistance of certain organisms and the spread of staphylococcal infections, the incidence of surgical complications of pneumonia, such as pulmonary abscess, empyema, pneumatocele, fibrothorax and pneumothorax, has increased.

Empyema and pneumothorax in this young age group require emergency surgical treatment, whereas fibrothorax, pulmonary abscess and pneumatocele rarely require surgical intervention. Pulmonary collapse and toxicity, both sequelae of a pyo-pneumothorax, must be prevented by immediate surgical treatment. Thoracostomy tube drainage placed under water as a seal expands the lung, evacuates the infected material, obliterates the pleural space and approximates the fistulous opening to the parietal pleura. Use of large thoracostomy tubes will accomplish all these and prevent loculated empyema and fibrothorax. Residual pneumatoceles usually will disappear after medical therapy of the pneumonia. However, if these become tension cysts, or if trouble, such as recurrent abscesses or bronchiectasis persists, resection becomes necessary.

Traumatic

The resiliency of the rib cage in infants, plus the fact that they are not subjected to the hazards of adulthood, account for the low incidence of external violence in infants. Treatment of thoracic injuries in the infant does not differ from that in adults and should be directed toward providing an adequate airway, stabilizing the chest wall, expanding the lung, and evacuating the pleural space of air and blood.

Foreign bodies within the tracheobronchial tree are surgical emergencies because of the immediate and potential dangers associated with them. They may obstruct or perforate. An attempt should be made to remove the foreign body by bronchoscopy. If this is unsuccessful, the particle should be removed through a bronchial incision.

Resuscitation of the newborn often requires positive pressure insufflation, either by mouth-to-mouth breathing or by direct intratracheal intubation. If the pressure applied is too great or if the inflation period is too long, *iatrogenic rupture* of the over-distended alveoli may occur. Intratracheal anesthesia in an infant, although necessary and often the safest type of anesthesia, carries this risk. If pneumothorax develops, emergency thoracentesis should be instituted, followed by tube thoracostomy drainage.

Esophageal Lesions

Congenital

Routine aspiration of the gastric contents of the newborn immediately after delivery has resulted in demonstration of many cases of *esophageal atresia* in the first few minutes of life. Pneumonia is inevitable in these infants because of aspiration either from overflow from proximal blind pouch or through a tracheo-

esophageal fistula. Early recognition and surgical correction will minimize the incidence of this complication.

Once the diagnosis is established, correction may be accomplished by ligation of the fistulous tract and anastomosis of the proximal and distal esophageal segments. If the distance between the two esophageal segments is too long for approximation, an alternate surgical procedure must be performed: (1) sliding the stomach up through a dilated esophageal hiatus to permit anastomosis of the two esophageal segments, or (2) a two-stage procedure consisting of first establishing esophagostomy and gastrostomy, and later, substernal colon or jejunal interposition between the esophagus and stomach.

Enterogenous *duplication cysts*, which arise in the posterior aspect of the mediastinum, are seldom asymptomatic, since they lie close to the trachea, esophagus and great vessels. Cyanosis, dyspnea and tachypnea are often present, and recurrent infection of the upper respiratory tract and hemorrhage may occur. Since most cysts do not communicate with the gastrointestinal tract, accumulation of secretions causes progressive enlargement of the cysts. Treatment is surgical excision with meticulous dissection to separate the cyst from the esophagus. It is often necessary to leave a muscular portion of the cyst wall attached to the esophagus to avoid esophageal injury.

Traumatic

Caustic burns are mentioned only to condemn early intervention. Bouginage during the acute inflammatory phase may further augment the damage. It is the practice in our Clinic to have these infants swallow a string immediately after injury, and after subsidence of acute inflammation in ten to twelve days, to ascertain the location and extent of injury by roentgenography after ingestion of lipiodol. If a stricture becomes apparent, bouginage should be deferred until four to six weeks after ingestion. Administration of steroids and a broad-spectrum antibiotic in the early phase of injury is gaining wide acceptance.

Foreign bodies in the esophagus are commonly encountered in infants. Although these can usually be removed successfully by esophagoscopy, some, because of complications, require emergency operation. If the foreign body is firmly wedged and cannot be broken, or if there is real danger of perforating the esophagus by manipulation, open thoracotomy should be done. Exploration should be from the right side of the thorax, in order to give access to the entire esophagus, and the material should be removed through esophagotomy. Sharp foreign bodies easily perforate the esophageal wall and cause acute mediastinitis, pericarditis or empyema. If perforation and its complications are unrecognized, they may prove fatal. Open thoracotomy with removal of the foreign body, repair of the esophageal laceration and adequate drainage of the mediastinum and pleural space will prevent disastrous sequelae.

Diaphragmatic Lesions

Occasionally, symptoms of a *congenital diaphragmatic hernia* are minimal and the condition is discovered in the course of routine examination. However, usually there is difficulty in establishing adequate respiration in the neonatal period. The symptoms are dyspnea with periods of cyanosis, particularly severe when the infant is turned on the good side. Once the diagnosis is established, the hernia should be repaired regardless of the degree of respiratory distress or the size of the infant. Delay in correction will result in accumulation of air in the gastrointestinal tract with further compression of pulmonary tissue and increased danger of obstruction to the herniated abdominal viscera.

A Levin tube should be inserted as soon as the diagnosis is suspected in order to keep the intestinal tract decompressed until operation is possible. Surgical approach in the newborn should be through the abdomen because evisceration of the abdominal contents makes reduction and

repair of the hernia easier and other associated intra-abdominal anomalies, which occur in approximately 30 per cent of cases, can be recognized and concomitantly treated. Also, lack of intra-abdominal space can be accommodated by undermining and closing the subcutaneous fat and skin only.

Postoperatively, the lung expands slowly but progressively. Therefore, vigorous attempts to expand the small, hypoplastic-appearing lung should be avoided. Overdistention of the normal lung may occur with mediastinal emphysema and creation of a pneumothorax.

Eventration of the diaphragm may cause severe respiratory distress early in life and simulate the clinical manifestations of congenital diaphragmatic hernia. The abnormally high but intact diaphragm may be due to *congenital* absence of the diaphragmatic muscle or *acquired* paralysis of the diaphragm from phrenic nerve injury at birth. Regardless of the etiologic mechanism, immediate surgical correction of the elevated diaphragm should be performed in infants who exhibit respiratory distress. Plication of the diaphragm to assure a position of mid-expiration can be achieved by an abdominal or thoracic approach.

Cardiovascular

The mere presence of a congenital malformation of the heart or great vessel in an infant is not sufficient indication for surgical intervention. Many of these infants who fail to thrive may improve with careful management. However, if the beneficial effects of medical therapy are temporary or if doubt exists regarding survival, early surgical treatment is imperative. The most common indications for urgent surgical treatment are cardiac failure that does not respond promptly to medical therapy, and frequent or severe anoxemic spells. Tracheal obstruction due to a congenital malformation of the mediastinal vessels is a rare but definite reason for surgical relief.

Cardiac failure that occurs as a result of increased pulmonary blood flow is treated ideally by surgical obliteration of the anatomic defect responsible for the systematic-pulmonary shunting of blood. However, often the risk in an extremely ill infant for correction of an intracardiac defect necessitating extracorporeal circulation lends favor to a less dangerous palliative procedure. The pulmonary blood flow can be diminished by constriction of the main pulmonary artery to decrease the pulmonary arterial pressure to approximately 30 per cent of the systemic pressure. Complete correction of the various defects can be delayed until a later date when both the size and physical condition of the child are more favorable. Surgical removal of an obstructing malformation will result in dramatic improvement of the infant who shows cardiac decompensation as a result of increased resistance to ventricular output.

Anoxemia is manifested in the infant by paroxysmal episodes of dyspnea, associated with severe cyanosis. If anoxemia is due to reduced pulmonary blood flow, surgical production of a systemic-pulmonary artery shunt will increase oxygenation and render palliative improvement. Experience has shown, however, that systemic-pulmonary artery anastomosis in the presence of an intact ventricular septum, regardless of the inadequacy of pulmonary flow, will lead to congestive heart failure.[2] Hence, in such a situation, surgical measures must be directed toward correction of the obstructing mechanism that causes decreased pulmonary flow. If pulmonary blood flow is adequate, but anoxemia exists because of inadequate communication between the pulmonary and systemic circuits, surgical creation of an atrial septal defect is the procedure of choice.

Various anomalous vascular arrangements within the mediastinum compress the trachea and esophagus and are manifested by stridor, dyspnea, and occasionally, dysphagia. The need for treatment is dependent upon the degree of constriction produced by the vascular ring. Only surgical interruption of the constricting vascular ring can relieve symptoms.

Conclusion

Many infants die as a result of intrathoracic lesions that are amenable to urgent surgical treatment. It behooves all physicians to be cognizant of the various physiologic disturbances brought about by these lesions, for early diagnosis and prompt surgical treatment will prevent many unnecessary deaths.

References

1. U. S. Department of Health, Education and Welfare: Vital Statistics of the United States 1:6-38, 1958, Washington, D. C., U. S. Government Printing Office, 1960.

2. Ochsner, John L., Cooley, Denton, McNamara, Dan, G. and Kline, Allen: Surgical treatment of cardiovascular anomalies in 300 infants younger than one year of age. J. Thoracic & Cardiovas. Surg. (In press).

The Fallacy of "Markups"

Let me recall to your mind a series of headlines concerning fantastic "markups." One such set of headlines charged a 7000% markup *over the ingredient cost* of one Schering Corporation drug! . . . I can tell you that we at Baxter have a product with a far more astronomic markup *over ingredient cost* than anything the (Kefauver) committee released for the front pages. One of our ingredients has a markup of more than half a million per cent—675,000% to be exact. That ingredient is water. . . . Actually, this fabulous markup gives us a sales profit of 7.1%. We are not selling the ingredient. You can get that out of a faucet. We are selling injectable distilled water which will not cause a fever when introduced into the blood stream.—William B. Graham, President, Baxter Laboratories, Inc., to the Investment Analysts Society of Chicago.

Clinical Experience With Fluphenazine (Prolixin®) A New Phenothiazine Drug*

• Trial and results of the use of a new tranquilizer on a group of forty-eight nonpsychotic patients are analyzed.

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TRANQUILIZING drugs have established a prominent position in medical therapy. These drugs have been classified as those which bring about reduced mental tension, relieve anxiety, and result in a more calm outlook without producing any marked degree of sedation or hypnosis.[1] Fluphenazine, or Prolixin®, one of the newer tranquilizing agents, has been shown to be an effective phenothiazine compound in the treatment of the psychotic or severely mentally disturbed patients. Since this drug might be equally effective in the non-psychotic patient, this clinical survey with fluphenazine was undertaken.

In 1956, thirty-five million prescriptions were written for tranquilizers, and it is believed that now their use is second only to antibiotics. In view of the wide variety of such drugs available for the relief of emotional tension, the physician should select a drug wisely in order to obtain maximum results for his patients.

The phenothiazines represent the most important class of tranquilizers, and several of the more potent agents are now available. These drugs have been in clinical use since the properties of promethazine were discovered in 1946 and especially since the advent of chlorpromazine in 1952. These agents are indeed effective in patients with excitement, agitation, hallucinations, and overactivity. They are of no value in depression and should be avoided unless there is agitation. They act primarily at a subcortical level rather than at the cortical sleep-producing level and do not significantly depress the medullary vital centers.[2]

As chlorpromazine and the other phenothiazine derivatives became more popular, it was apparent that certain toxic effects occurred. These included an obstructive type of jaundice, agranulocytosis, skin rashes, and extra-pyramidal activity.[3] Then the addition of the piperazine ring to the basic chlorpromazine formula not only caused a marked change in the potency of the drug by increasing the tranquilizing effects, but also the incidence of agranulocytosis and jaundice has been significantly reduced. However, the incidence of extrapyramidal reactions has been greater when higher doses were used.

In an attempt to further improve on the phenothiazine molecule the trifluoro-substituted phenothiazines have been introduced. Here the effects were mainly tranquilizing, and the action was longer than that of chlorpromazine with a dose every twelve hours frequently being satisfactory. In this category fluphenazine or Prolixin® has been developed; this drug is a trifluoromethyl-hydroxyl-ethyl piperazinepropyl derivative of phenothiazine. Chemically fluphenazine is 4-(3-[2-(trifluoromethyl)-

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10-phenothiazinyl] propyl) 1-piperazineethanol dihydrochloride.

In clinical trials, fluphenazine has displayed maximal tranquilizing effects and has exhibited strong anti-hallucinatory and anti-delusional action in the treatment of psychotic patients. It possesses pharmacodynamic action of the same type as chlorpromazine, but milligram for milligram, it has been shown to be more potent than the older preparation.[4] This drug has been shown to be highly effective in the treatment of agitation, excitement, explosive behavior and turbulence commonly seen in severely psychotic states.[5] It has been reported to modify favorably paranoid ideation and in alleviating obsessive-compulsive behavior.[6]

To date all reported studies with fluphenazine have been mainly with these types of psychotic patients. Therefore, to evaluate the effectiveness of this new phenothiazine preparation on non-psychotic patients, this clinical investigation was conducted using fluphenazine only on patients whose symptoms might be associated with anxiety or tension.

Material and Method

Fluphenazine was administered to 48 patients over a seven month period from June, 1960, to January, 1961. The majority of the patients were selected from the Out-Patient Department, Touro Infirmary, New Orleans, Louisiana. Several of the patients were started on the drug while in the hospital. In this group of patients, ages ranged from 19 to 72 years, with a mean age of 46 and a median age of 50 years. Because of the predominance of white patients in this clinic, there were only 11 non-white patients in our series. Fifteen of the patients were males, and 33 were female. (See Figure 1.)

Fluphenazine was used as adjuvant therapy in four cases of myocardial infarction and angina to allay anxiety associated with this organic process. Likewise, the preparation was administered to diminish the accompanying tension in two cases of peptic ulceration. In the remaining cases a complete medical survey was

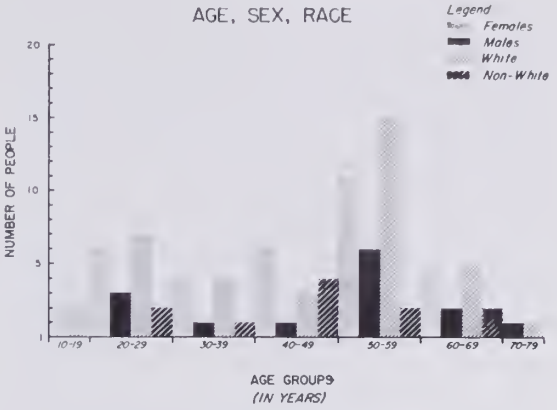


Figure 1.

conducted prior to therapy with fluphenazine which revealed no organic basis for the initial complaints. To our knowledge, none of these patients had received previous psychiatric therapy nor were they considered to be basically psychotic.

The basic psychological problem was not emphasized during the patient visits, and no form of psychotherapy was undertaken. All patients were selected from general medical clinics or the general medical wards. Ambulatory patients were seen biweekly initially, then weekly, and then at monthly intervals. During these visits relief of the patients' symptoms were evaluated and dosage of the drug was regulated for the individual patient.

Six dosage schedules were utilized in the therapy with fluphenazine: 0.25 mgm. tablet two, three, or four times per day; 1.0 mgm. tablet two or three times per day; and 2.5 mgm. tablet only once per day. The dosage and frequency of the drug was varied from time to time during the study in order to obtain maximum efficiency with the smallest dose.

In 28 of the 48 patients placebo therapy was administered. The placebo was either substituted for the actual preparation while the patient was being maintained on the drug or used as the initial form of therapy. Results with the placebo were compared with those of the actual preparation, and thus each patient served as his own control. The patient was unaware of the change in therapy.

The patient was considered improved

if, after having received the drug for one month, he demonstrated relief in the symptoms for which the drug was utilized, and also after at least three months, no recurrence of these symptoms had occurred.

Results

The presenting symptoms for which therapy with fluphenazine was initiated are listed in Table 1. The basic psychological problem was not investigated but merely a brief understanding of the patient's initial complaints. Many of the patients presented multiple difficulties, and thus there existed the disparity between initial symptoms and number of patients in the series. Fluphenazine was given in combination with narcotics for relief of pain in two patients with carcinoma of the lung. General anxiety, tension, and agitation were the most frequent symptoms for which therapy was prescribed.

TABLE 1
PRESENTING SYMPTOMS FOR WHICH THERAPY WAS INITIATED

	Symptom	Frequency
1.	Anxiety	17
2.	Tension	13
3.	Agitation	12
4.	Headaches	10
5.	Chest Pains	9
6.	Abdominal Symptoms	8
7.	Depression	6
8.	Weakness	3
9.	Relief of Pain with Narcotics	2
10.	Obsessive Compulsive	2
11.	Back Pain	2
12.	Insomnia	1
13.	Phobia	1

Out of the forty-eight patients to whom fluphenazine was administered, forty-two, or 87.5 per cent, showed improvement in the symptoms for which the drug was given. The average length of administration of the drug was four and one-half months, with over half of the group receiving the medication for the entire seven months. To date, none of this group has had recurrence of symptoms, and no new symptoms have been encountered.

In six of the cases, which included 5 females and 1 male, 4 white patients and 2 non-white patients, the preparation failed to cause any improvement and in fact made the patient worse. The drug was then discontinued two to four weeks after the initial administration. In three of these cases, the patients described increased fatigue, lethargy, and sleepiness due to the drug; whereas, in the other three cases an exaggeration of the presenting symptoms, including depression, headache, and abdominal pains, became apparent. As in the improved cases, the dosage of the drug was varied before we would definitely conclude that the patient showed no improvement to therapy. With the exception of these cases, no other significant side effects were noted in any of the patients receiving fluphenazine.

Table 2 reveals the various dosage schedules employed and the number of patients maintained effectively on each dose. It becomes readily apparent that the 1 mgm. tablet twice a day (giving a total of only 2 milligrams per day), one in the morning and one in the evening, was the most effective dose in our series. In 10 of these cases, the 2.5 mgm. tablet once a day was substituted; however, this

TABLE 2
DOSAGE USED

Size of Tablet	Dose per Day	Fluphenazine	Number of Patients	Number of Patients Improved	Total Improved
1 mgm.	B.I.D.	2 mgm.	24	22	48 %
1 mgm.	T.I.D.	3 mgm.	2	0	0 %
0.25 mgm.	Q.I.D.	1 mgm.	5	4	8 %
0.25 mgm.	T.I.D.	0.75 mgm.	9	9	18 %
0.25 mgm.	B.I.D.	0.50 mgm.	2	2	4 %
2.5 mgm.	Q.D.	2.5 mgm.	6	5	9.5%
		TOTAL:	48	42	87.5%

change was effective in only one case. In the remaining 9 patients the original dosage schedule was resumed, and improvement continued.

In the 28 patients on whom placebo therapy was employed, 22, or 79 per cent, had recurrence of the symptoms within two to four weeks after the initiation of the placebo therapy. In addition to this, in 4 patients on whom placebo was the initial form of therapy, no alleviation in initial symptomatology was noted after two to four weeks. In only 2 of the 28 cases, or 7 per cent, no clinical relapse was detected with placebo therapy.

Discussion

Fluphenazine, or Prolixin®, has repeatedly been shown to be an effective tranquilizing medication in hospitalized psychotic patients and outpatients. In the studies presented here, fluphenazine has been demonstrated to diminish anxiety and tension to a remarkable degree in the non-psychotic patient. Anxiety was banished without changes in judgment, mental skill, or behavior. The drug has also been shown to be effective in combatting anxiety complicating physical illnesses.

Previous reports on the use of fluphenazine in psychotic patients have stressed its potency and thus the necessity for lower dosage levels. Likewise, in our series of non-psychotic patients, the potency of the drug was evident as the low dosage schedule indicated. Two milligrams daily was by far our most effective dose. There was virtually no advantage in giving more than the two daily doses, as an adequate level appeared to be achieved and maintained on this regimen. The single dose tablet (2.5 mgm.), although adequate in several cases, did not appear to be as effective as the morning-evening treatment.

The relatively infrequent dosage schedule appeared to be a tremendous aid in the administration of fluphenazine in the ambulatory patient. Whereas other phenothiazines and tranquilizers used in the treatment of psychoneurotic patients are most often prescribed three to four times per day, the 2 mgm. of fluphenazine per day in two divided doses was indeed an adequate dosage level for optimal tranquilizing effects. The 0.25 mgm. tablet was effective in the hospitalized patient although its advantages in the ambulatory patient is questioned unless the dosage of phenothiazine necessary is minimal. Taylor [7] in 1959, reported 2.5 mgm. daily to be the most effective dose in the average case; our average dose of 2.0 mgm. per day was in close agreement with this earlier report.

Patient acceptance of the medication was definitely gratifying. The most frequent comment made by the patients was: "I feel better now than I have in a long time." Rarely did a patient neglect to take the medication, and the patients appeared quite anxious to receive an additional supply of the preparation at each visit.

Side reactions were conspicuous by their absence. Such complications with phenothiazine therapy as seizures, hypotensive crises, jaundice, or agranulocytosis, as reported by Hollister [8] and other investigators [9, 10] were not observed in our series. The high incidence of extrapyramidal reactions reported by Freyham [11] with various phenothiazine compounds was not noted in this study; and indeed, in no case was there need for "antiparkinson" drugs. The most logical explanation for the lack of side reactions with fluphenazine appears to be twofold. First in importance is the low dosage that was employed with therapy with this new phenothiazine, and of probable equal importance was the change in the chemical structure from that of the basic chlorpromazine formula.

Nonetheless, although no significant side effects were noted in this study, our series was small, and fluphenazine is a phenothiazine-type drug. Hence, the physician must be mindful of some of the expected effects which may occur, although we believe them to be minimal with fluphenazine therapy.

In the group of patients on whom placebo therapy was employed, each patient

served as his own control. In this group, all but two of the patients manifested a clinical relapse with the initiation of the placebo; this fact confirms even further the effectiveness of this preparation rather than the basic support which the psychoneurotic patient receives from frequent visits to the physician.

The variety of initial complaints which the patients in our series presented emphasizes the vast range of functional states for which fluphenazine is potentially effective. The degree of effectiveness in the various psychoneuroses should be manifest in future studies.

Goldman [12] has reported fluphenazine to be of unquestioned usefulness in formerly psychotic patients in remission. Likewise, we have shown fluphenazine to be as useful, if not more effective, in the ambulatory non-psychotic patient. Hence, we believe that fluphenazine, or Prolixin®, is an effective, potent, and safe phenothiazine-type drug available at this time.

Conclusions and Summary

1. Fluphenazine, or Prolixin®, was used used on 48 non-psychotic patients for an average of 4.5 months at Touro Infirmary, New Orleans, Louisiana.

2. Eighty-seven and one-half per cent of the patients on whom fluphenazine was used showed improvement in their initial symptomatology.

3. Two milligrams per day in two divided doses was the most effective therapeutic dose.

4. Only two patients displayed equal effectiveness with fluphenazine and placebo therapy.

5. No significant side effects usually associated with phenothiazine therapy were noted.

6. Fluphenazine has been shown to be effective in a wide variety of functional disorders.

7. The therapeutic effectiveness of fluphenazine in the non-psychotic patient is comparable to that in the psychotic patient.

References

1. Friend, Dale G.: The Tranquilizers, Med. Clin. N. America (Sept) p. 1253, 1958.

2. Black, J.: Phenothiazines as Antiemetics and Tranquilizers, J. M. A. State Alabama 29:12 (June) p. 492, 1960.

3. Friend, Dale G.: The Phenothiazides, Clin. Pharmacol. and Therap., 1:1 (Jan.-Feb.) 1960.

4. Communication: Prolixin, Summary of Information for Clinical Investigators. Squibb Institute for Medical Research.

5. Freyham, F. A.: Preliminary Report on Neuroleptic Treatment with Prolixin, Clin. Res. Notes, 2:6 (Aug.) 1959.

6. Weiss, I. I.: Clinical Evaluation of Prolixin in Psychotic Patients, Clin. Res. Notes, 2:12 (Aug.) 1959.

7. Taylor, I. J.: Clinical Experience with Prolixin, Clin. Res. Notes, 2:6 (Sept.) 1959.

8. Hollister, L. E.: Complications from the Use of Tranquilizing Drugs, New England J. Med. 257:4, 170.

9. Kimross-Wright, V.: Complications of Chlorpromazine Treatment, Dis. Nerv. System, 16:114-119, 1955.

10. Cohen, I. M.: Complications of Chlorpromazine Therapy, Am. J. Psych., 113:115, 1956.

11. Freyham, F. A.: Therapeutic Implications of Differential Effects of New Phenothiazine Compounds, Am. J. Psychiatry, 115:577, 1959.

12. Goldman, Doughlas: Prolixin in the Treatment of Psychotic Symptoms, Clin. Res. Notes, 2:6 (Sept.) 1959.

Miracle Drugs . . . Household Words

Over the past 20 or 30 years medical contributions to the health and welfare of our people through careful research have been magnificent. That this is true is clearly evidenced by the fact that miracle drugs, lifesaving vaccines and new types of equipment have become household words even for the man on the street.—Charles S. Rhyne, former president, American Bar Association.

What is Hypnosis*

• The author advances the hypothesis that hypnosis is an innate ability of man to attain a state of hibernation which ability must be developed by a teaching-learning process.

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THOSE who have investigated the phenomenon of hypnosis have concluded that it is undefinable.[1, 2] Hypnosis has been described, discussed, and observed clinically from many viewpoints and many theories have resulted to explain its mechanism.[3, 10] However, though many of the opinions have been most impressive, none can be fully accepted for each one seems to present a particular facet of a very complex puzzle, but no one theory fits all of the pieces together to make it wholly and universally accepted.

From the standpoint of definition, hypnosis may be compared with the phenomenon of love. Many have attempted to define it but no mortal being has successfully done so; all men have experienced it, poets and philosophers have written about it—even lives have been given for its true explanation; but its definition is still awaited. And so stands the definition of hypnosis.

With this comparison in mind I would like to present several ideas which could and might throw a ray of light on the title question asked—What is hypnosis?

Natural Phenomenon

It is my intention to develop the idea that hypnosis is a natural phenomenon which became part of man's constitutional endowment through phylogeny. Let us first define the word natural as innate, inborn, true to life; occurring in nature, characteristic of or explainable by the operations of the physical world; not artificial, synthetic, processed or acquired by external means.[4] It is an accepted fact that man came into being by a natural process and that all of his abilities have also been acquired naturally, man evolving gradually during the process of phylogenetic development. Man's physical, physiological and biological characteristics are similar to those of the animal kingdom, and he is also governed by the same biological laws that govern the other animals. Man's resemblances to the animals are stronger than his differences from them; however, man differs from all other living creatures and things in that he alone has keenly developed intellectual faculties and spiritual qualities, giving good reason for his name classification, *homo sapiens*, translated from the Latin as "wise man". The intellectual development, which forms the most important difference between man and the lower animals, is man's ability to think and to learn from his experiences and through the use of reason he is able to adapt himself to his environment, and he has the ability to adapt his environment to suit his needs.[5] On the other hand, animals primarily seem to react to environment instinctively.

The transition which has occurred in man's intellectual development can be said to be represented biblically by Adam who was the first recorded animal to become aware of the feeling of shame. With the new mental capacity afforded him, Adam's resultant behavior was motivated by feelings of fear and guilt (Gen. 3:1-13). This could be known then as the first description of the transition from instinctual reactions of animals to behavior patterns of man motivated by thought, reason and feelings, thereby, resulting in the evolution of Adamic man.

* Presented at the Eighty-first Annual Meeting of the Louisiana State Medical Society, May 10, 1961, in New Orleans.

State of Dormancy

Self preservation and perpetuation of the race are the first laws of nature; nature, being quite often referred to as Mother Nature, implying its parental protection. Mother Nature has provided both plants and animals with certain constitutional endowments, many of which are directed toward propagation and survival. One of the most valuable of these protective mechanisms possessed by living material is the ability to go into a state of dormancy. Dormancy is a state in which physiology and biochemistry are altered so that life is maintained at the minimal rate possible for continued existence. This vital state enables the plant or animal to conserve, preserve, maintain and protect itself from certain ecological factors, for sufficient periods of time, during which they may be exposed to destructive elements within their environment. For example, certain plants, known as deciduous, lose their leaves in winter; it is explained that the sap, so called, "goes down" and the plant appears lifeless. During this dormant period chemical and physiological changes occur which are designed to conserve, preserve, maintain and protect the plant giving maximal security to its survival and its eventual return to complete biological functioning at some future time. The plant need not be taught to attain this state; its attainment is initiated by changes in atmospheric conditions, primarily that of temperature. This process applies to that group of plants known as perennials and they maintain their existence year after year with this highly developed protective mechanism.

This same mechanism is also found in bacteria that attain a state of spore formation when the environment becomes too hot, too cold, or too dry for them to carry out their life processes; this mechanism is also designed for their protection, simulating the state just described as dormancy. We know that entamoeba histolityca will attain a cystic state, the lung fish a state of estivation, and the land animals and insects a state of hibernation. Hibernation is the Latin for "winter sleep". Among the hibernators may be mentioned the snail, earthworm, queen bee, butterfly, fly, frog, chipmunk, bear, opossum, badger and many other members of the animal kingdom who make use of this dormant state. The badger hibernates straight through the winter; other animals such as the chipmunk and gopher also hibernate but become active on pleasant days and care for their biological processes. Other animals, such as the lizard, change color when in danger; the fawn freezes as though made of wax or stone when harm approaches, and it maintains this freeze position long beyond the endurance of voluntary control. Also the opossum when threatened goes into a hibernation state, his heart rate is minimal, oxygen consumption is reduced markedly, odor fails to be emitted, even an ant or fly can crawl across the cornea without eliciting a response. To the enemy of the opossum he is dead, but let danger dissipate and the opossum very quickly comes out of his dormant state and flees to safety. He feigned death—he played possum.

A considerable amount of scientific investigation has been carried out and much information gathered concerning the changes in physiology and biochemistry from the wakeful to the hibernation state of the lower animals. The information seems to repeat the same theme over and over again—that the animal alters its physiological and biochemical processes for its own well being—again to conserve, preserve, maintain and protect itself.

If the dictum, "Ontogeny recapitulates phylogeny", be true, then it is also true that man has acquired all of his characteristics and abilities during the course of his development through the phylogenetic scale. A proven truth must consequently act as a springboard for proof of the truth of many related factors. If the above statement be true, hypnosis (so-called for lack of a better name) possesses many of the characteristics of the hibernation mechanism and like hibernation seems to present itself as a conserver, preserver, maintainer, and protector of its

subject. Certainly the basic nature of hypnosis seems to be rooted in the phenomenon of hibernation. The hypnotic state has been reported repeatedly and by many authors to be of benefit in many clinical situations such as: Control of intractable pain in terminal illness, asthma relief, production of general anesthesia for major surgery, to relieve anxiety and fear pre and post operatively as an adjunct to general anesthesia, control of pernicious vomiting of pregnancy and to maintain postoperative comfort; these to cite only a few for the list would be too long and too monotonous to complete. As you can see the theme is to conserve, preserve, maintain, and protect — the same theme is found in animal hibernation. In hypnosis we seem to find the ability of man to hibernate coupled with man as a psychological being. However, man must develop his innate ability through learning, and with a teacher, learning progresses faster. The teacher also makes it possible for the pupil to recognize his abilities.

Early Use in Medicine

Let us develop this idea a little further. Esdaile [6] working in the 1840's used hypnosis to develop surgical anesthesia in his patients. This he accomplished very well. In reading Esdaile's descriptions of his work, it is interesting to note that his patients not only developed the anesthesia necessary for the surgical procedure but also reacted to the surgery and infectious process for which the surgery was done as though antibiotics were used in conjunction. His mortality rate was tremendously reduced with the use of hypnosis in his work. One may argue that this reduction of his mortality rate was due primarily to pain reduction. From reading his works one could speculate, and justly so, that some mechanism was at work to preserve, conserve, maintain, and protect and that the achievement of pain reduction did not supply the entire answer to the antibiotic-like response.

Berger and Simel [7] investigating the influence of hypnosis on intraocular pressure in normal and glaucomatous subjects found that on direct suggestion for symptom removal, all glaucomatous patients showed a drop in pressure of one or both eyes to a level as low as (in one case) or lower than (in six cases) the lowest recorded tension during the previous twelve months that they had been followed.

Self Hypnosis and Autogenic Training

Hoppe [8] distinguishes between self-hypnosis and autogenic training, as described by Dr. I. H. Schultz, and yet agrees that autogenic training is rooted in hypnosis and may be classified as self-hypnosis. Be that as it may, the patient is taught to attain a hibernation-like state through six psychophysiologically-oriented subjective feeling exercises. No direct or indirect suggestions were made to the patients referable to symptomatology. His conclusions are, and I quote, "In summary, our own experiences as well as those made by others, it may be pointed out that neurotic, and under certain circumstances, psychotic patients may derive special benefits from the autogenic training. Autogenic training may decrease or even remove the symptoms of an actual neurosis, but in itself is not sufficient to cure a psychoneurotic illness." Again the same protective theme.

Hock [9] discussing the potential application of hibernation to space travel, distinguishes between natural hibernation and artificial hibernation as used to describe hypothermic anesthesia. He brings out the point that there is no similarity in the two. He poses the question that if a state of hibernation could be achieved in man, then some of the problems of space travel could be answered. He considers man as a potential hibernator and he feels that concentrated study should be made of mammals, with hibernating abilities, particularly the black bear who achieves an intermediate condition of hibernation which condition he feels can be more readily duplicated by man. He apparently hopes to achieve this by alteration of environment and makes no mention of achieving it through psychological means which could be what is observed and called hypnosis. His main objective

is to conserve, preserve, maintain, and protect man in space travel.

Summary and Conclusions

1. Man has been presented primarily as a psychological being and contrasted with the lower animals which are primarily instinctual beings.

2. Man has stronger resemblances to the lower animals than his differences from them. The most important difference is that man has the ability to think and to feel and thereby is able to adjust himself to his environment and adjust his environment to suit his needs.

3. Both plants and animals have been endowed with the ability to attain a state of dormancy or hibernation in which physiology and biochemistry are altered so that life is maintained at a minimal rate possible for continued existence to conserve, preserve, maintain and protect.

4. It could be that the ability to hibernate became part of man's constitutional endowment through phylogeny and that this ability coupled with man's psychological endowment results in what is observed and described as hypnosis. However, this ability, innate in man (as many others are), must be developed by a teaching-learning process. The possibilities for the extent of this development seem limitless.

References

1. Morris, G. O.: Major Trends in the Recent Literature of Hypnosis, Psychiatry 20:185 (May) 1957.

2. Wolberg, L. R.: Medical Hypnosis, New York, Grune & Stratton, Inc. 1948.

3. Erickson, M. H.: Hershman, S., Sector, I. I.: Medical and Dental Hypnosis, The Julian Press, Inc., 1961.

4. Webster's New Collegiate Dictionary; G & C Merriam Co., 1945.

5. World Book Encyclopedia; Field Enterprises Educational Corporation, 1958.

6. Esdaile, James: Hypnosis in Modern Medicine, Julian Press, 1957.

7. Berger, A. S.; Simel, P. J.: Effects of Hypnosis on Intra Ocular Pressure in Normal and Glaucomatous Subjects, Psychosomatic Medicine 20:321, 1958.

8. Hoppe, K. D.: Relaxation through Concentration—Concentration through Relaxation—Autogenic Training with Neurotic and Psychotic Patients: Medical Times 89:254 (Mar.) 1961.

9. Hock, R. J.: The Potential Application of Hibernation to Space Travel, Aerospace Medicine 31:485 (June) 1960.

10. Leuba, C.: Theories of Hypnosis: A Critique and a Proposal, Am. J. Clinical Hyp. 3:43 (July) 1960.

11. Lait, V.: Effect of Hypnosis on Edema, Am. J. Hyp. 3:200 (Jan.) 1961.

Not True to Life

The inference is not justified that our scientifically trained and able doctors are not capable of critically evaluating the publications of new drugs. Doctor friends have told me that the intimate doctor-patient relationship has been damaged by such inferences from Washington and by articles like the one appearing recently in LIFE which urged patients to press their doctors to prescribe cheaper drugs. Most of you probably saw the LIFE article entitled "A Big Pill to Swallow" but did not see the later ad in LIFE or the letters to the editor pointing out numerous errors of fact in the original article, including the fact that the drug on which the article was centered retailed at an average price of only 11.3¢ and not 30¢ as LIFE had written.—*The Drug Industry—Robbers or Heroes?:* Alex Guerry, Jr., President, Brayten Pharmaceutical Company.

The Journal of the Louisiana State Medical Society

Established 1844

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The Journal does not hold itself responsible for statements made by any contributor.

Editorial

Attitude Toward Radioactive Fallout

A close friend said: "The first prerequisite for having a definite opinion on any subject whatsoever is to know nothing at all about the subject. The minute one begins to have knowledge of a field, he begins to equivocate, to have some diffidence in thinking and shows caution in expressing an opinion."

The two aspects of this epigram apply to much that is written on the subject of radioactive fallout. However, since this situation exists and since we as physicians are being asked to interpret what may be called the conflicting currents in the floating knowledge of this topic, it is timely that at least a tentative opinion be expressed.

In these columns, another phase of this matter was discussed [1] in regard to diagnostic x-ray exposure. It was stated that the weight of authority felt the obligation of the physician and radiologists was to employ technical procedures that would give the minimum of radiation; that radiation in pregnancy, as a general principle, should be avoided; and that radiation to the gonads should be kept to a minimum. It was felt that all other diagnostic radiation exposure should be used as needed and without fear.

In the matter of fallout, the several positions taken by the authorities do not leave us with a satisfactory guide. The subject needs to be considered in its several aspects.

Toward understanding of the matter, it must be realized that we are constantly living in a world of radiation effect to which the fallout problem is added. The radiation that we are experiencing comes from the sun, the earth, the cosmic rays, and the potassium in the body. Added to this is that for medical and dental x-rays, luminous devices, power plants, and television. The fallout from atomic tests approximately equals that from television.

The sum total of this so-called normal

[1] Editorial. J. Louisiana State M. Soc. 113: 210 (May) 1961.

radiation is one micromicrocurie plus or minus 0.5 per square yard of air. In the New Orleans area, on September 18, 1961, following the successive explosions in Russia, this figure reached 244. However, authorities agreed that concern might be generated if this level stayed at a few hundred for a considerable length of time and would be worried only if it reached several thousand, over a similar time.

A report from the Medical Research Council of Great Britain indicates from thyroid gland study that nuclear explosions before 1960, were unlikely to have exceeded one quarter of the radiation received from natural sources during any year. The U. S. Atomic Energy Commission said on October 31, 1961: "It is estimated that increasing the current level of strontium 90 in the United States by manyfold would still result in less strontium 90 in the bones than permitted by the radiation-exposure guides now in effect for the general public for normal peacetime operations."

The inference from these various reports is that up to now there is no need to worry about fallout. It is possible, of course, that the misanthropic Russians may continue nuclear explosions in such volume and numbers, either on their own soil or attempted on ours, to the point that we will be continuously exposed to sufficient fallout which would exceed any tolerable or "permissible" dose.

When radiation exceeds the amount which has been arrived at as a permissible dose, its effects need to be considered both in the somatic and genetic fields. The survivors of the Hiroshima and Nagasaki bombs are reported as showing an appreciable, though not large, increase in the incidence of leukemia. No genetic effects were recognized.

The Rongelap natives who were caught in the fallout from the 1954 tests have shown minor skin damage, and a tendency towards baldness, which was usually reversible.

In the field of the genetic damage following radiation, there is much controversy. The estimates of ultimate damage are made upon the changes that follow radiation to fruit flies and mice. Mutations have been the effects studied. They are alterations in the genetic structure of a species. There is no threshold dose necessary to produce mutations. They can occur spontaneously in every living thing. Naturally occurring background radiation is believed to account for somewhere between 10 and 50 per cent of mutations in humans. Some geneticists have reported mutations following the wearing of tight trousers, producing high gonadal temperatures, and concluded that the mutation rate among the male genes might imply a genetic hazard 100 to 1000 times greater than those estimated from different sources of radiation.

Deductions from experimental data, by investigators in some fields, have been expanded to imply a risk to the race, which is not susceptible of proof. Conservatives in this field, however, have estimated that if the whole population were to receive an average of 10 roentgens per generation for many centuries in addition to natural background radiation, the mutation rate would theoretically increase 20 per cent and would raise the genetically defective population from the figure of 2 per cent to one of 2.4 per cent.

The observed effects of fallout do not agree with the estimated effects. In view of the unsettled state of our knowledge, it seems reasonable to state that we have little to fear from what has passed, and unless the forseeable future brings disaster and radiation far in excess of anything anticipated, we should not live in daily fear of fallout at this time.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

SUMMARY REPORT ON ACTIONS OF THE HOUSE OF DELEGATES AMERICAN MEDICAL ASSOCIATION FIFTEENTH CLINICAL MEETING

November 26-30, 1961

Denver, Colorado

Social Security health care, relations with the American College of Surgeons, organization of the American Medical Political Action Committee, medical discipline and polio vaccine were among the major subjects acted upon by the House of Delegates at the American Medical Association's Fifteenth Clinical Meeting held Nov. 26-30 in Denver.

Sounding the keynote for the Association's campaign to oppose enactment of the King-Anderson type of legislation in 1962, Dr. Leonard W. Larson of Bismarck, N. D., AMA president, told the opening session of the House that proposals to incorporate health care benefits into the Social Security system "would certainly represent the first major, irreversible step toward the complete socialization of medical care."

The compelling issue, Dr. Larson declared, is socialization versus voluntarism—or compulsion versus freedom of choice. He predicted that courage, determination and the will to win on the part of physicians will bring defeat of the King-Anderson Bill in Congress next year.

Pointing out that "we are engaged in an historic struggle to preserve our country's unique system of medical care and our stature as a profession," Dr. Larson said:

"We are **for** voluntarism. We do not believe that Americans, acting either as citizens or as patients, require central direction from government in their choice of doctor or hospital, in the spending of their health care dollars, or in their selection of the health services and facilities best suited to their own individual needs.

"We take our stand for voluntary cooperation, for preservation of the historic federal-state organizational structure, for individual responsibility, for help for those persons who **need** help."

Dr. Larson emphasized that the AMA will continue to give primary attention to implementing the Kerr-Mills Act in the states, promoting voluntary health insurance and prepayment plans designed for the aged, and upgrading nursing homes.

The House of Delegates gave enthusiastic approval to Dr. Larson's address and took several actions reaffirming strong support for the Kerr-Mills program to aid the needy and near-needy aged, and urging a concerted, determined fight against Social Security health care proposals in Congress.

The House advised all state and county medical societies to recognize the impending threat and to prepare now for any eventuality by continuing to oppose any scheme which tries to impose a substandard system of medical care on the American people.

"United, as well as individual, effort is essential," the House declared. "To stop short of our total effort is to invite disaster and to let loose upon our beloved America irreversible forces which will ultimately destroy her. We cannot and we must not fail."

American College of Surgeons

The House agreed with the intent of five resolutions which expressed strong dissatisfaction over recent statements by a spokesman for the American College of Surgeons, and it also approved a Board of Trustees report informing the House that arrangements have been made for a January meeting with the ACS Board of Regents to discuss that organization's recent statements and policy positions. The report expressed hope that the meeting "will lead to a unification of effort in behalf of American Medicine."

The House instructed the Board of Trustees to take the five resolutions to the January meeting and to report to the delegates as soon as possible on the results of the meeting. In taking the action, the House approved a reference committee report which said:

"Your reference committee believes the public airing of disagreements between large segments of Medicine can only confuse and shake the confidence of the public in the medical profession and distort the true image of Medicine which the American people should have.

"However, in its hearings upon the several resolutions relating to the recent statements of the American College of Surgeons, all those who testified were in opposition to the actions and statements of the ACS. The majority of those who spoke were Fellows of the American College of Surgeons.

"Your reference committee has no wish to fan the flames of controversy ignited by the statements of the American College of Surgeons. On the other hand, the committee feels the House has an obligation to its membership—which includes physicians in all types of practice—to agree with the indignation manifested by the introduction of these resolutions and in

the discussions before the committee.

"This is all the more important because the position of the American College of Surgeons is based on an incorrect interpretation of the action of this House which in no sense is a retreat from its position of firm opposition to fee splitting."

American Medical Political Action Committee

The House heartily approved the purposes and goals of the recently organized American Medical Political Action Committee and urged all physicians, their wives and interested friends to join AMPAC and other political action committees in their states and communities.

"Effective political action must be carried on at the local level and effective implementation must be done by local groups of physicians," the House said. "The formation of AMPAC recognizes the need for a national medical political action committee to coordinate the political activities of physician groups at all levels throughout the country."

The purposes of AMPAC, which is an organization separate and distinct from the American Medical Association as required by federal law, are:

1. To promote and strive for the improvement of government by encouraging and stimulating physicians and others to take a more active and effective part in governmental affairs.

2. To encourage physicians and others to understand the nature and actions of their government as to important political issues and as to the records and positions of political parties, officeholders and candidates for elective office.

3. To assist physicians and others in organizing themselves for more effective political action and for carrying out their civic responsibilities.

4. To do any and all things necessary or desirable for the attainment of the purposes stated above.

Medical Discipline

The House received from the Council on Constitution and Bylaws a proposed amendment which would have made it possible to implement a recommendation by the Medical Disciplinary Committee that was approved by the House at the June, 1961, meeting. This recommendation was to change the bylaws so as to confer original jurisdiction on the Association to suspend and/or revoke the AMA membership of a physician found guilty of violating the Principles of Medical Ethics or the ethical policies of the Association, regardless of whether or not action has been taken against him at the local level. However, after considerable discussion on the floor of the House, the proposed amendment was referred back to the Council on Constitution and Bylaws.

In another action on medical discipline the House approved the expanded activities of the Judicial Council, which has taken over permanent responsibility in that area, and said that the Council program should benefit all physicians, the public and the profession.

Polio Vaccine

The House adopted a resolution which urged that medical societies at the local, county, district or state levels throughout the United States should encourage, stimulate and participate in surveys to determine the percentage of individuals in each community who have undergone immunizing procedures for poliomyelitis.

The resolution stated that on the basis of the results of the surveys, the local medical society should determine the type of vaccine and the most effective type of program which will be of greatest benefit to the public.

Until such time as all three types of oral vaccine are available, the resolution concluded, the Salk vaccine should be the vaccine of choice for routine poliomyelitis immunization, with the choice of program for administering the vaccine to be determined on a local basis by each county medical society.

Miscellaneous Action

In considering a wide variety of resolutions and annual and supplementary reports, the House also:

Dissapproved two proposals which would have required that **resolutions** be introduced 30 and 45 days, respectively, before Association meetings.

Approved a statement that physicians have an **ethical obligation** to participate in medical society activities and express their opinions fully and freely.

Reaffirmed AMA policy that it is not considered unethical for a physician to own or operate a **pharmacy** provided there is no exploitation of the patient.

Agreed with the Judicial Council that the physician himself is responsible for the control and custody of **drug samples** once they come into his possession, and in the high tradition of the medical profession he should not dispose of them in any way that could cause harm to others.

Commended those constituent medical societies which have moved forward in the area of **human relations** by eliminating membership restrictions based on race or color. In connection with the same subject, Dr. Peter Murray of New York City, retiring after 12 years of service in the House, told the delegates in a farewell address that Negro physicians now have some kind of medical society membership in every state except one.

Approved a recommendation that a special House committee be appointed to investigate all

facets of the operation of the **Joint Commission on Accreditation of Hospitals.**

Agreed with the Board's choice of Miami Beach, Florida, as the site for the **1964 Clinical Meeting.**

Approved the combining of the American Medical Education Foundation and the **American Medical Research Foundation into the American Medical Association Education and Research Foundation,** effective next January 1.

Deferred action on a proposed study of **fund raising** by voluntary health agencies, pending the development of additional information by the AMA Committee on Voluntary Health Agencies.

Reaffirmed the previous policy that physicians should have the privilege of prescribing drugs by either **generic or brand name.**

Approved the principle of **income tax deductions** for medical care of the aged.

Recommended, in reviewing the **Medicare Program,** that all county medical societies in the area surrounding armed forces hospitals make a serious attempt to establish formal liaison with the physicians on those hospital staffs.

Endorsed the administration of indigent medical care programs developed in cooperation with local medical organizations as a legitimate activity **of state and local health departments.**

Urged the elimination of all "categories" in programs of **assistance to the needy** at the federal and state level, with all assistance provided through a single program.

Referred to the Council on Medical Service a resolution proposing the use of state and federal tax funds to provide voluntary prepayment health insurance protection for the aged. In a related action the House approved experimentation with **prepayment plans** under assistance programs.

Urged more vigorous promotion of voluntary non-profit prepayment health plans.

Urged every physician in the United States to use automobile **seat belts.**

Recommended, as a civil defense measure, a **mass immunization** program for the general public.

Suggested that the Board of Trustees continue its negotiations to develop a group **disability insurance** program for AMA members.

Concurred in the Board's appointment of a special committee to study the organizational status of **AMA Sections,** the functions of the Scientific Assembly and existing procedures for establishing medical certifying boards.

Instructed the Council on Medical Education and Hospitals to study the present and potential contribution of the **American Board of Abdominal Surgery** to the advancement of the art and science of surgery and the betterment of public health, to determine whether it should be approved as a recognized examining board.

Approved and commended the objectives and program submitted by the Committee for Liaison with **National Nursing Organizations.**

Recommended that the Secretary of Defense consider the advisability of developing a training program for **reserve medical officers.**

Awards and Donations

The AMA Board of Trustees presented a special citation to the producers and cast of The Donna Reed Show for its "contribution to public understanding of the high ideals of the medical profession." Carl Betz, who portrays Dr. Alex Stone on the television show, received the award from Dr. Hugh H. Hussey, Jr., AMA Board chairman, at the Wednesday Session of the House.

Contributions totaling $435,275.93 from physicians in six states were presented to the American Medical Education Foundation during the opening session on Monday.

Registration

Final registration at the meeting reached a total of 6,138, including 2,976 physicians.

WOMEN SERVE THE PUBLIC

In the four decades since women won the right to vote they have assumed important positions in business, finance, government—virtually every occupation once considered "for men only."

Nowhere is this more evident than in public service:

17 women are in the United States Congress
347 women sit in state legislatures, including
- 55 in New Hampshire
- 49 in Connecticut
- 48 in Vermont
- 12 each in Arizona and Pennsylvania
- Only 4 states have no women in their legislatures

In 1958 there was a 37 percent increase in the number of statewide elective positions women held.

In 1959, over 20,000 women served as county clerks, superintendents of schools, tax collectors, auditors and treasurers.

10,000 women serve on city councils or hold comparable jobs.

Does this not give you, as members of the State Society, an incentive to encourage more of our auxiliary members to enter politics? It would be materially helpful to our cause if more of our doctors and their wives would become members of our state legislature, where they would be in a position to fight and vote against all bills detrimental to organized medicine and render a great service to our profession, our patients and the public in general.

We need such support at this time in our efforts to prevent the socialized medicine "good

wishers" and the cultists from controling the practice of medicine.

1962 DUES

Although a letter concerning payment of 1962 dues was sent to all members of the State Society the early part of November, dues have not yet been received from many members.

As stated in the communication from the Secretary-Treasurer of the State Society, according to the By-Laws these dues must be paid in advance and should be received prior to January 1, 1962. Medical defense is not in effect for any member who has not paid annual State Society dues prior to the rendering of service for which damages are claimed and it is therefore important that dues be paid in advance in order to assure continuous protection through the entire year of 1962.

Amount of dues for 1962 State Society membership is $50.00 and for AMA membership $35.00. Since dues can not be accepted direct by the State Society, separate checks for these dues should be submitted to the parish or district society of which a doctor is a member, along with his dues for membership in the local society.

As stated above, continuous membership is important and in addition to medical defense protection, it is most desirable to have no interruption in receipt of the State Society Journal and publications received through AMA membership.

Each member who has not already paid dues for next year is urged to do this immediately.

MEDICARE INFORMATION

Of course, our Society no longer has a contract with Dependent's Medical Care Department of the U. S. Government and does not participate in this program as a Society.

However, it is our understanding that some individual physicians do treat these cases and have been paid for their services on the basis of a published schedule fee booklet designating maximum fees which the Fiscal Agent can pay for these respective services.

According to late information "This Medicare Manual and Schedule of Allowances" containing authorized fees will no longer be published and made available to physicians in Louisiana.

It is recognized that Medicare fees have always been published and distributed to practicing physicians in Louisiana. Non-distribution of schedule of fees should not pose a continuing problem, however, since under Medicare, physicians are expected to bill their usual charges for like services furnished to individuals with annual incomes of $4500.00 and this procedure should be continued since it remains as a contract provision.

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Jefferson	Third Thursday of every month	
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

DR. SEGALOFF NAMED DIRECTOR OF RESEARCH

Dr. Albert Segaloff has been named Director of Research at Alton Ochsner Medical Foundation, effective October 1. In addition to this newly created administrative position, Dr. Segaloff will continue as Director of the Foundation's Division of Endocrine Research, which post he has held since 1945.

Dr. Segaloff also serves as head of the Department of Endocrinology, Ochsner Clinic and Ochsner Foundation Hospital. He is Associate Professor of Clinical Medicine at Tulane University School of Medicine, and a Fellow of the

American College of Physicians. He was the recipient of the 1951 Ciba Award of the Endocrine Society, and has authored numerous publications.

Dr. Segaloff currently serves as consultant in cancer chemotherapy to the National Cancer Institute, Bethesda, Md., is a member of the Endocrine Panel, and is chairman of the Hormone Evaluation Committee and the Cooperative Breast Cancer Group of the Cancer Chemotherapy National Service Center.

One of the Ochsner Foundation's major research projects is a continuing intensive study of hormone and chemotherapeutic agents in neoplasia. This work, under Dr. Segaloff's direction, is supported by grants from the American Cancer Society and the National Institutes of Health.

SYMPOSIUM ON INFERTILITY

New York University Medical Center in conjunction with the American Society for the study of sterility will present a symposium on infertility on February 8-9-10, 1962. This symposium is planned for urologists, gynecologists, endocrinologists, internists, and others who are interested in the problems of infertility. Approximately one-third of the program will be devoted to the problems in the male, one-third to the female, and one-third to the couple. The material will be presented in the form of lectures, panels, and demonstrations.

The symposium will be staffed predominantly by a guest faculty of outstanding clinicians and researchers in the three areas to be covered.

The tuition will be $75.00. A detailed program and application may be obtained from the office of the Associate Dean, New York University Post-Graduate Medical School, 550 First Avenue, New York 16, New York.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The Part I Examinations (Written) of this Board will be held in various cities of the United States, Canada, and military centers outside the Continental United States on Friday, January 5, 1962.

Applicants and candidates for examination in 1963, please note that the deadline date for making application is advanced to July, 1962.

Current Bulletins outlining present requirements may be obtained by writing to the Executive Secretary's office.

PHARMACEUTICAL MANUFACTURERS ASSOCIATION

Following is the text of a letter of September 29 from Austin Smith, M. D., President of the Pharmaceutical Manufacturers Association, to General Alfred M. Gruenther, President, American National Red Cross, and The Honorable Frank B. Ellis, Director, Office of Civil and Defense Mobilization:

"The Pharmaceutical Manufacturers Association was established in Washington in 1958 to serve the interests of its Members Firms who produce prescription pharmaceuticals and to serve on their behalf the interests of the public.

"In the latter capacity we have taken an increasing interest in collecting and distributing information regarding the role of our industry in disaster situations. As you know, a frequent result of an accidental or natural disaster is damage to or destruction of medical supplies while, at the same time, demands for such supplies are increased.

"With this in mind, our staff has made a survey of the response of our Member Firms in the area affected by Hurricane Carla. The policy of our industry in this type of situation emerges quite clearly as a result. It occurred to me that it would be helpful to you and your associates to have this information now and for the future.

"Nearly 40 firms who responded to our request for information and who account for most of the prescription drug production in the United States have undertaken to replace without charge damaged and destroyed pharmacy stocks in the hurricane area. Most of these firms have stated that such replacements apply to those stocks which are uninsured. The method of carrying out these activities varies somewhat according to the resources and personnel of each firm. Those who maintain or are able to furnish field representatives in the storm area instruct these men to make personal observations and to arrange for stock replacements. Others accept claims at their home offices and administer them accordingly.

"The basis for this policy is, of course, that physicians must have available to them a guaranteed supply of vital therapeutic tools without the loss of time involved in recovery by individual pharmacists of resources sufficient to resupply themselves through normal commercial channels.

"I am sure that this policy remains in force in any pertinent disaster situation and I hope that it has been of meritorious effect in coping with problems created by the recent hurricane."

THE DR. M. T. VAN STUDDIFORD MEMORIAL NURSING LOAN FUND OF LOUISIANA STATE UNIVERSITY MEDICAL SCHOOL

A fund has been established in memory of the late Dr. M. T. Van Studdiford for the purpose of loans to young women who desire to enter L.S.U. from the State of Louisiana for a four year nursing course leading to a B.S. degree or for graduate nurses of Louisiana with an R.N., to acquire the B.S. degree, to enable them to teach or to become hospital supervisors.

Donations to this Fund (tax exempt) may be

sent to: Sister Henrietta Guyot, Director of Nursing, Louisiana State University School of Nursing, LSU School of Medicine, 1542 Tulane Avenue, New Orleans 12, La. Checks should be made out to: Dr. M. T. Van Studdiford Nursing Loan Fund of Louisiana State University.

BOOK REVIEWS

The Physician and the Law; by Roland H. Long, ed. 2. New York, Appleton, 1959. 302 p. $5.95.

The tone of this book is well characterized by Dr. Milton Helpern, Medical Examiner of the City of New York in the Foreword:

"However, the legal responsibilities and medicolegal situations arising out of the practice of medicine in our increasingly complex society create many legal hazards against which the physician should be constantly on guard. Yet all too frequently, he is unaware of these hazards, or misinformed about them, in his professional relationships with patients and with governmental agencies."

The book though brief gives a very excellent coverage of the medicolegal ramifications of the practice of medicine and well might serve as a text for a course in Medicolegal medicine. Of necessity, the subject matter is handled in a general manner and specific references to the law of the state in which the book is to be used must be amplified.

R. J. Muelling, Jr., M. D.

Practical Clinical Management of Electrolyte Disorders; by William J. Grace, Appleton-Century-Crofts, 1960, 132 p. $4.95.

This is a small book, the purpose of which is to give a practical guide to the clinical management of patients with fluid and electrolyte problems. It does not attempt to go into the basic physiological mechanisms of normal regulation or their disturbance during disease. Its ten chapters are arranged for the most part in terms of clinical syndromes, such as heart failure and severe vomiting, and each chapter contains one or two case reports presented in some detail, with a discussion of the problems presented and the treatment given. It follows that the amount of space devoted to formal textual instruction is not very large, but there are three chapters discussing acid base imbalance, magnesium deficiency, and potassium depletion.

This book must, obviously, stand or fall by the standard of its advice for practical clinical management of patients. This is reasonably sound, though oversimplified. The chapter on replacement of electrolyte deficits by formulas uses rules which are fallacious, such as calculating sodium deficit on the decrease in serum level and the volume of extracellular fluid, rather than total body water, thus ignoring internal fluid shifts.

The reviewer does not feel that the book is a useful addition to existing works.

Brian H. McCracken, M. D.

W. B. SAUNDERS COMPANY features the following recent books in their full page advertisement appearing elsewhere in this issue:

GRAHAM, SOTTO and PALOUCEK—CANCER of the CERVIX
full and authoritative coverage of the diagnosis and management of cervical cancer —from Roswell Park Memorial Institute.

HOGAN and ZIMMERMAN—OPHTHALMIC PATHOLOGY
an atlas and textbook on diagnosis of diseases of the eye and on the pathology of involved tissue.

OWEN—HOSPITAL ADMINISTRATION
covers every aspect in the construction, organization and administration of today's hospitals.

PUBLICATIONS RECEIVED

(Certain ones of these will be selected for review)

Appleton-Century-Crofts, Inc., N. Y.: Immunity, by Sidney Raffel, M. D. (2nd edit.).

The Bobbs-Merrill Co., Inc., N. Y.: Executives' Health Secrets; How to Lick Tensions and Pressures, by William P. Shepard, M. D.

C. V. Mosby Co., St. Louis: Differentiation Between Normal and Abnormal in Electrocardiography, by Ernst Simonson, M. D.

Philosophical Library, Inc., N. Y.: The Art of Thinking, by Dagobert D. Runes.

W. B. Saunders Co., Phila.: Clinical Obstetrics, by Benjamin Tenney, M. D., and Brian Little, M. D.; Disturbances of Heart Rate, Rhythm and Conduction, by Eliot Corday, M. D., and David W. Irving, M. D.; Psychiatry: Biological and Social, by Ian Gregory, M. D.

Charles C Thomas, Publisher, Springfield, Ill: A Simplified Physiology of the Human Body, by Deryck Taverner, M. D.

The Williams & Wilkins Co., Balt.: Medicine in Tropical Africa, A Realistic Approach, by Michael Gelfand, M. D.

The Cancer Commission of the Louisiana State Medical Society

ORAL CANCER MONOGRAPH

by: Danely P. Slaughter, M. D.
and Lester B. Cahn, D.D.S.

This is a comprehensive work which covers oral cancer thoroughly as it concerns the dentist, and stresses the role of the dentist in cancer case-finding.

TABLE OF CONTENTS

Introduction

Etiology and Pathogenesis of Oral Cancer

Professional Attitudes in Diagnosis and Detection

Examination of Patient

Clinical Diagnosis of Oral Tumors

Neck and Face Tumors Apparent on Inspection

Skin Cancer of Face

Biopsy

Treatment of Oral Cancer

We are pleased to advise that copies of the Oral Cancer Monograph will be mailed directly by the National Headquarters of the American Cancer Society to all practicing dentists.

AMERICAN CANCER SOCIETY
LOUISIANA DIVISION, INC.
822 Perdido Street New Orleans 12, La.

Louisiana State Board of Health
W. J. REIN, M.D., President

Now...two new products to supply the iron infants[2] and children[1,3] need at the ages they need it

TRI-VI-SOL®
VITAMIN DROPS WITH IRON

DECA-VI-SOL®
CHEWABLE VITAMINS WITH IRON

These two new formulations—one for infants, one for older children—are distinctive additions to the present line of Vi-Sol® vitamins, thereby providing the choice of Tri-Vi-Sol drops with and without iron and Deca-Vi-Sol chewable vitamins with and without iron. Both new products taste good. The packaging carefully limits elemental iron to a total of 500 mg. per bottle. Nevertheless, the bottles should be kept out of the reach of children.

Tri-Vi-Sol vitamin drops with iron. Each 0.6 cc. daily dose supplies 10 mg. elemental iron plus safe, rational amounts of vitamins C, D and A. Supplied in bottles of 30 cc.

Deca-Vi-Sol chewable vitamins with iron. Each chewable tablet supplies 10 mg. elemental iron and safe, rational amounts of C, D and A plus seven significant B vitamins. Supplied in bottles of 50 chewable tablets.

Bibliography: (1) Jacobs, L.: GP *21*:93 (Jan.) 1960. (2) Shulman, I.: J.A.M.A. *175*:118-123 (Jan 14) 1961. (3) Moore, C. V., in Wohl, M. G., and Goodhart, R. S.: Modern Nutrition in Health and Disease, ed. 2, Philadelphia, Lea & Febiger, 1960, p. 243.

10 mg. of prophylactic iron... logically combined for your convenience with two of the most widely used and accepted pediatric vitamin products

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